A STUDY ON BEHAVIOURAL FINANCE, SOCIO-ECONOMIC AND TECHNICAL FACTORS INFLUENCING GOLD EXCHANGE TRADED FUND (ETF) INVESTMENT DECISIONS IN KERALA

Thesis Submitted to

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for the Award of the Degree of

Doctor of Philosophy

under the Faculty of Social Sciences

by

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Under the Supervision of

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Certificate

This is to certify that this thesis entitled **"A Study on Behavioural Finance, Socio-Economic and Technical Factors Influencing Gold Exchange Traded Fund (ETF) Investment Decisions in Kerala"** is an authentic record of research work carried out by Smt. Sheeba K. H (Reg. No. 4904) under my supervision and guidance, at the Department of Applied Economics, Cochin University of Science and Technology, Cochin-22 in partial fulfillment of the requirements for the award of the degree of Doctor of Philosophy in Social Science of Cochin University of Science and Technology under the Department of Applied Economics and no part of this work has been presented for the award of any degree in any other University. All the relevant corrections and modifications suggested by the audience during the pre-submission seminar and recommended by the Doctoral Committee have been incorporated in the thesis. Plagiarism was checked and it is within the acceptable limits.

Place: Kochi-22
March 2019

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Declaration

I do hereby declare that the Thesis titled **"A Study on Behavioural Finance, Socio-Economic and Technical Factors Influencing Gold Exchange Traded Fund (ETF) Investment Decisions in Kerala"** is the outcome of the original work done by me under the guidance of Prof. (Dr.) K. C. Sankaranarayanan at the Department of Applied Economics, Cochin University of Science and Technology. I also state that this work has not been part of any dissertation and that it has not been submitted for the award of any degree, diploma, associateship or any other title or recognition from any University or Institution.

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March 2019

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INTRODUCTION

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1.1 Introduction

Gold ETFs, otherwise called paper gold, are open ended mutual funds that assist the investors to put their cash in gold which is ninety nine point five percent pure. These are recorded on the stock exchanges and investors are assigned units of the mutual fund where every unit represents one gram of gold. There are ETFs where every unit can represent less than one gram of gold also. Being passively overseen funds, they just pursue the value of gold in the market and thus their profits align with the profits of what gold investor would receive otherwise. An investor can purchase and sell them on the stock market. A gold exchange traded fund is a commodity ETF that comprises of just a single resource,

Gold. In any case, the fund itself comprises of gold derivatives that are supported by gold. But the investor does not really possess any physical unit of gold. So when the investor redeems his units on gold ETF, they don't receive the valuable metal in any frame. Rather, investors get only the money according to the value of Gold. Gold ETFs gave investors a method to trade in the gold bullion market without the need of handling physical conveyance of gold, and to purchase and sell that portion through the trading of units on stock market.

By introducing Gold ETF's in the Commodity Derivatives market, the Finance Minister proposed to build up another money related resource, a sovereign gold security, as an option in contrast to acquiring metal gold. The securities will convey a settled rate of interest, and furthermore be redeemable in real money as far as the presumptive worth of the gold, at the season of reclamation by the holder of the security. India imports as much as 800-1000 tons of gold every year. In spite of the fact that supplies of gold in India are assessed to be more than 20,000 tons, generally this gold is neither traded, nor monetized. Gold Monetization Scheme is a plan that encourages the contributors of gold to procure request on their metal records. When the gold is kept in metal record, it will begin gaining request on the equivalent. Proposed Gold Monetization Scheme will supplant both the present Gold Deposit and Gold metal Loan Schemes. The new plan will enable the contributors of gold to acquire request in their metal records and the gem dealers to get credits in their metal record. Banks and different merchants would likewise have the capacity to adapt this gold. GMS, which changes the current 'Gold Deposit Scheme' (GDS) and 'Gold Metal Loan Scheme

(GML), is planned to activate gold held by family units and foundations of the nation and encourage its utilization for gainful purposes, and over the long haul, to decrease nation's dependence on the import of gold.

In any case, Indian investors make noteworthy contributions in value subsidiaries or physical Gold unlike Gold ETF's even under the present mechanically evolving situation. Truth be told, disregarding soaring costs of the yellow metal-from ₹ 4,395 for every 10 gram in 2000 to more than ₹ 24,000 of every 10 gram in 2019-its interest has not been genuinely influenced in Kerala. The South Indian states alone record for 60 percent of gold deals in India, the world's greatest gold purchaser. As per industry sources, Kerala tops the nation in gold utilization, with the biggest number of retailers-more than 5,000 contrasted with 1,000 a decade back. The state expends around 75 tons estimated at about ₹ 20,000 crore-of the 650 tons of gold sold in India consistently and is home to a portion of Asia's biggest gold showrooms. What's more, it's not simply the urban parts of the State where swanky, mammoth showrooms are coming up each day; even the towns are seeing the gold rush with showrooms upto 35,000 sq. ft. Kerala is the 'Gold Capital' of the nation since the State represents around 25 percent of all export gold devoured in the nation. Individuals in Kerala are spending on physical gold even after the higher costs, thinking that it is a safe investment option. It appears that this pattern will proceed in future also. Gold advance organizations make it less demanding for the general population to exchange gold. As of late, there has been a move in the adornments division from gold to precious stone. Be that as it may, the interest for gold is in the development track.

Subsequently it is discovered that, even in the wake of guaranteeing the advantages of Gold ETF Investments over the other investment avenues, there is the absence of pooling of funds towards this area. Conventional economic and financial concepts and its overview reports don't unmistakably clarify the purposes for this wonder. The implications of this research gap would perhaps be better understood once the dimensions of Gold ETF as an investment alternative would be identified and analyzed by an investor at the time of portfolio diversification itself. A brief conceptual introduction are described below to thoroughly refine the crux of research gap identified at the end of the descriptive information shared.

1.1.1 Gold as an Economic Asset

Financial resources are commodities working as assets of significant value and over which ownership rights are upheld by institutional units, exclusively or all in all, and from which financial benefits might be determined by their owners by holding them, or utilizing them, over future period. Gold is an exceptionally interesting commodity which is vital to our economy. Truth be told, a few legislators recommend that gold would improve the cash positions than the paper dollar that we use today. The reasons behind considering Gold as an economic asset are as follows:

1. Gold requires significant investment and vitality to be created

Gold is an alluring metal. The vast majority prefer gold, as they consider it as a ware. Individuals don't understand that it is their quest for gold that provokes its price hike and makes it vital to the economy.

Individuals need it and they will burn cash on it. This makes it valuable and attracts significant investment and makes it imperative to the economy. In contrast to the paper dollar, gold can't be printed. So possession of Gold will not increase money supply. The legal paper dollar is right now imprinted in the United State of America by the Federal Reserve System, which is the Central bank of America. They manage the economy by controlling interest rates, taking care of cash supply, and regulating inflation. The point highlighted here is that this is a framework controlled by man. But the supply of gold is regulated by either over exploitation of the existing sources or discovery of new sources and that involves extra cost.

2. Gold holds its incentive consistently

Gold keeps its esteem regardless of the state of the economy or the supply of dollar. The supply of gold cannot be increased effortlessly. It must be mined from earth or extracted from rocks which involve high cost and serious efforts. This makes gold entirely stable and keeps its financial esteem. This may be the reason why, free market advocates like Ron Paul holds the view that gold should come back as a monetary unit, to supplant as paper currency. It shields society from being overrun by those that get control.

3. Should we come back to a highest quality level?

A notable fact is that quite a bit of society is poorly educated about how essential gold is to our economy and they don't comprehend why it's a superior option than the paper dollar. While it might require a lot of investment and the paper dollar will presumably need to injure itself

before it occurs, a real thought on coming back to a highest quality level will like happen sooner or later.

1.1.2 Gold as an Emotional Asset

Emotional resources are a newly developing resource class. The expression "Emotional Assets" covers an expansive range of gathering classes including fine art, contemporary design, rare stamps, ancient coins, etc. What majority of these share, is the emotional dividend and the emotional premium that the investor benefits and invests. What makes purchasing these assets unique is Emotion. As of late, fine art, jewels and uncommon melodic instruments have all been positioned as unique asset classes. Visual arts and jewels have their very own one of a kind cycles of ups and downs that makes their risk- return profile exceptionally troublesome, to foresee and control. That makes them unsatisfactory for the lion's share of investors. When one includes these classes into a diversified portfolio then the risk – return assessment proves to be fluctuating making them opt for a rather safe and secured resource class.

However, Indian customers are prepared to pay any cost for gold. Social and religious conventions including wearing of adornments assume a noteworthy job in impacting Indian gold interest. This fondness for gold is acting against "The law of Demand", since the price does not decide demand as gold goes under extravagance products and individuals consider it to a greater extent a status symbol and an important investment. Consequently it could be plainly expressed that there exists a craving for Gold in Indian market, with the greater part of the general population having the longing, readiness and capacity to buy it. In any

case, it is seen that the example of the utilization and the scope of cost don't generally pursue the Law of Demand.

1.1.3 Shift of Gold from an Emotional Asset to an Economic Asset

Recently, there has been a metamorphosis witnessed in Gold as a commodity, as it is now, looked upon as an Economic Asset rather as an emotional asset. The reasons mentioned below may be the driving factors behind this shift.

1. Risk Reduction

Gold is remarkable in that it doesn't convey a credit chance. Gold is nobody's obligation. There is no risk associated with gold when compared to that of bonds or shares. What's more, unlike cash, the value of gold can't be influenced or undermined by the monetary policies or inflation of that nation. In the meantime, 24-hour trading, a wide scope of purchasers and the wide scope of investment items accessible, including coins and bars, make liquidity risk low. The gold market is profound and liquid, as exhibited by the way that gold can be traded at smaller scales and more quickly than many contending diversifiers or even standard investments.

2. Gold and the Dollar

Gold is regularly utilized as a compelling hedge against changes in the US dollar, the world's principle trading money. In the event that the dollar appreciates, the dollar gold value falls, while a fall in the dollar, in respect to the next principle monetary standards, creates an ascent in the gold cost.

While this may likewise be valid for different resources, gold has reliably demonstrated as among the best in securing against dollar shortcoming.

3. Gold and Inflation

Market cycles may behave violently, but gold still keeps its buying power. Its value, regarding the genuine products and enterprises that it can purchase, has remained astoundingly steady. Conversely, the purchasing power of numerous financial instruments has, by and large, declined because of the effect of rising costs for merchandise and ventures. Accordingly, gold is frequently purchased to counter the impacts of inflation and cash variances. It actually doesn't take a monetary wizard to reason that the trillion dollar bailouts of the financials, housing and auto makers will weigh overwhelming on the shoulders of the US Dollar in the mid and unquestionably long haul. In the short run, experience has shown that, gold can go amiss from its long-run inflation-hedge price, and can offer opportunities for noteworthy returns, while maintaining a buoyant period.

4. Portfolio Diversification

Asset allocation is a vital part of any investment system. By adjusting resource classes of various connections, investors would like to amplify returns and limit chance. Nonetheless, while numerous investors may trust that their portfolios are appropriately differentiated, they ordinarily contain just three resource classes - stocks, bonds and money. There are a wide range of reasons and inspirations for individuals and establishments trying to put their resources into gold. What's more, plainly, a positive value approach, supported by desires that the

development sought after for the valuable metal will keep on overwhelming that of supply, gives a strong basis to investment. Of the other key drivers of investment demand, one consistent idea can be distinguished: all are attached in gold's capacities to safeguard against vulnerability and shakiness and secure against risk.

1.1.4 Investing in items: Funds and Futures

The term 'items' in an investment setting is commonly used to portray mass products traded on an exchange or in a money market. One doesn't have to possess an expansive stockroom in which to store items so as to put resources into them. Commonly, investors utilize a reserve to access a spread of wares. As store administrators don't wish to take responsibility for dispatches of oil or grain, they will put resources into money related instruments called "futures". A future presents the hypothetical appropriate to purchase the item at a given cost at a given date later on – however by and by future trades are quite often made due with the money equal value. The future date at which the item should be purchased or sold is known as the maturity period. On the off chance that the market cost of the item goes up, the future typically gains in esteem. On the other hand, if the market cost of the ware goes down, the future regularly falls in esteem. Day by day financial papers convey spot costs and pertinent news and articles on various commodities. Plus, there are specialized magazines on farming products and metals accessible for subscription. Brokers likewise give research and analysis support. In any case, the data most effortless to get to is from sites.

1.1.5 Investment vehicles

Most prominently used investment vehicles of Gold as a commodity includes Bars, Coins, Certificates, Accounts and Exchange-traded items.

Gold exchange-traded items may incorporate exchange-traded funds (ETFs), exchange-traded notes (ETNs), and closed end funds (CEFs) which are traded like offers on the significant stock exchanges. The primary gold ETF, Gold Bullion Securities (ticker image "GOLD"), was propelled in March 2003 on the Australian Stock Exchange, and initially spoke to precisely 0.1 troy ounces (3.1 g) of gold. As of November 2010, SPDR Gold Shares is the second-biggest exchange-traded finance on the world by market capitalization.

Gold Exchange-traded products (ETPs) speak to a simple method to gain exposure to the gold cost, without the bother of putting away physical bars. Anyway exchange-traded gold instruments, even those which hold physical gold to help the investor, convey chances past those intrinsic in the valuable metal itself. For instance the most well-known gold ETP (GLD) has been generally scrutinized, and even contrasted with mortgage-backed securities, because of highlights of its complicated structure.

Ordinarily a little commission is charged for trading in gold ETPs and a little yearly stockpiling expense is charged. The yearly costs of the reserve are charged by moving a little measure of gold spoken to by each certificate.

1.1.6 Gold Exchange market

Exchange-traded funds, or ETFs, are investment organizations that are lawfully delegated open-end organizations or unit investment trusts (UITs), however that contrast from customary open-end organizations and UITs. The primary contrasts are that ETFs don't offer straightforwardly to investors and they issue their offers in what are classified "Creation Units" (vast blocks, for example, blocks of 50,000 offers). Likewise, the Creation Units may not be bought with money but rather a crate of securities that reflects the ETF's portfolio. Generally, the Creation Units are part up and re-sold on a secondary or auxiliary market.

ETF offers can be sold in essentially two different ways. The investors can pitch the individual offers to different investors, or they can offer the Creation Units back to the ETF. Likewise, ETFs for the most part recover Creation Units by giving investors the securities that contain the portfolio rather than money. In view of the restricted redeemability of ETF shares, ETFs are not viewed as and may not call themselves mutual funds.

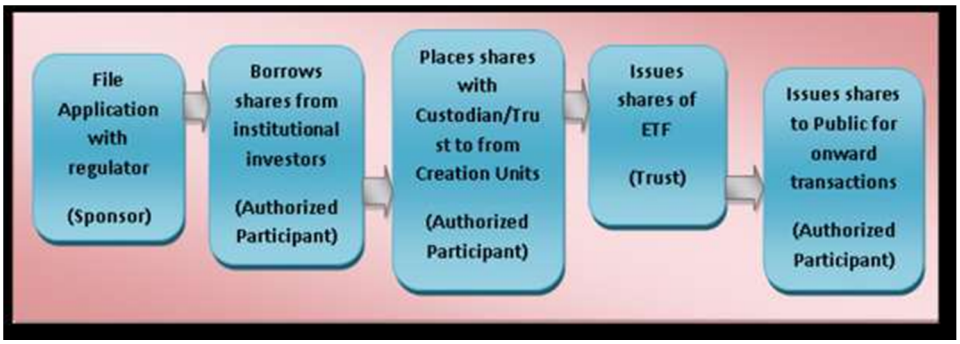
1.1.6.1 Owning shares of Gold ETF

Owning gold ETF can be incredible for any individual who is hoping to broaden their investment or retirement portfolio. Numerous investment fund managers frequently prescribe that people have somewhere around 10 percent of their investments attached to physical resources, and some investment fund managers even propose that a portfolio contain 20 percent or progressively worth of physical resources. Since gold ETFs are intended to pursue the cost of gold intently, owning

gold ETF is fundamentally the same as owning physical gold bullion. Since gold will, in general, ascent as the dollar falls, owning offers of gold ETF can give investors security against monetary downturns and budgetary emergencies that happen both locally and globally. Investors can even purchase inverse gold ETFs that expect the cost of gold will fall. For this situation, investors will benefit when the cost of gold goes down, and they will lose cash if the cost of gold ascents. Investors should need to purchase inverse gold ETFs on the off chance that they inquire about market drifts and verify that the economy will do well over a specific timeframe.

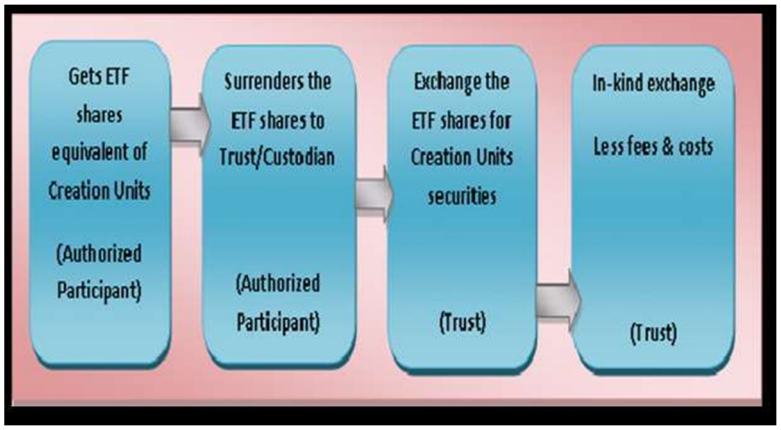
1.1.6.2 Purchasing of Gold ETFs

This maybe the least demanding part, as one just need to figure out which ETF is accessible in one's geological market, pick the one with the most favorable ownership rights or maybe most reduced yearly expense ratio, and afterward either sign in to their trading account or make a call to their agent. One can move the gold ETF simply. There is no compelling reason to check the gold, or value, or ponder about the top notch one would be paying, or the transportation, or where one can store it. This dimension of simplicity in purchasing the gold exchanged traded fund is what that makes it such a popular choice or such a mainstream decision, regardless of the related dangers and expenses. Process Diagram for creation and redemption of ETF units are exhibited in Fig. 1.1 and 1.2



Source : Mohammedsaleem; Matloobullah Khan (2013)

Fig. 1.1: Process Diagram for creation of ETF units



Source : Mohammedsaleem; Matloobullah Khan (2013)

Fig. 1.2: Redemption of ETFs

1. Advantages of Owning Gold ETFs

There are a few points of interest in owning gold ETFs as opposed to physical gold bullion or gold stocks, including storage issues, liquidity, and ties to the physical asset. As the cost of gold ascents and falls, so too does the estimation of the ETF. An investor can utilize gold ETF to help enhance his or her portfolio without stressing over storage issues or trading out an investment in a market with low liquidity.

Gold ETF are straightforward vehicle and give a powerful and effective stage for little investors to differentiate in to GOLD.

Gold is considered as a Global Asset Class and there are different reasons why GOLD ETF is an unquestionable requirement in retail investors portfolio, and how they are superior to conventional types of putting resources into Gold.

- No stress on adulteration or impurities
- Held in Electronic Form
- Can track ones investment esteems progressively
- Extremely Liquid

The costs brought about in purchasing and moving Gold ETF are much lower than the expense caused in purchasing, moving, putting away and guaranteeing physical gold.

2. Disadvantages of Owning Gold ETFs

In spite of the majority of the favorable circumstances that owning gold ETFs convey, there are a couple of detriments to know about that also. Notwithstanding being a substitute for a hard resource, benefits from gold ETF can likewise be exhausted at a shockingly high rate. The fact that Gold ETFs aren't real bullion and the tax rates associated with owning Gold ETFS are sometimes looked upon as setbacks by investors.

3. Requirements to make investments in Gold ETF

To invest in Gold ETF, an investor needs a demat account and a trading account with an online account for trading stock (here, gold). When the account is prepared it's simply a question of picking Gold ETF and put in the request online from one's brokers trading gateway. The requests are steered to the exchange where the purchase orders are coordinated with the sell order and when the transaction is executed an affirmation will be sent back.

Following are the documents required to open demat and trading account

- PAN card (Mandatory)
- Identity proof
- Address proof

4. ETF-Global Standards

While the development over the most recent three years is delighting, the ETF fragment in India lingers a long way behind its

created market peers. The NYSE, for example, has 1,470 ETFs recorded on it. The Deutche Borse with 1,032 ETFs, SIX Swiss Exchange with 841 ETFs and Euronext with 618 ETFs are the other significant exchanges that lead in ETF trading. Interestingly, the NSE has less than 50 ETFs recorded on it. In January 2015, the estimation of ETFs traded on the NYSE was $459 billion while $268 billion of ETFs were traded on the Nasdaq OMX, as indicated by the World Federation of Exchanges. The ETF turnover of $184 million on the NSE thus in real compares poorly. So what is hindering the development of ETFs in India? According to market analysts and economists Gold ETF's are really a broking item sold through a mutual fund channel. Further, they validate that, push from wholesalers is critical to draw in retail investors and since ETF is a low-edge, high-volume business, the promoting push is requiring some serious energy. Lack of alternatives could be another factor. Contrasted with the Nifty ETFs, the CPSE, gold and bank ETFs are picking up footing.

This demonstrates that investors are pulled in to novel techniques. While the NSE has various topical and vital lists, for example, the CNX Dividend Opportunity Index, NSE quality list, CNX Consumption Index or CNX Service Sector Index, fund houses are yet to dispatch ETFs dependent on them. The advantages of these funds are likewise set to develop with the administration permitting the EPFO (Employees' Provident Fund Organization) to contribute up to 5 percent of its gradual streams into value through ETFs.

5. Gold ETF-the Indian setting

First Gold ETF support was propelled by Benchmark Asset Management Company on February 15, 2007 with a unit equivalent to 1 gram and it was likewise recorded NSE with an image GOLDBEES. At that point government mutual fund Company UTI also launched Gold ETF with NSE image GOLDSHARE on March 1, 2007 and measure was same as past launched organization. Later different public and private sector organizations came in this division of Gold ETFs funds list, the details of which are given in Table 1.1.

Table 1.1: Gold ETFs funds list

S.N	AMC	Launch Date	Size (1 unit equals)	Symbol at NSE
1	Benchmark Asset Management Company Pvt. Ltd.	15 Feb 2007	Approx. 1 gram	GOLDBEES
2	UTI Mutual Fund	1 Mar 2007	Approx. 1 gram	GOLDSHARE
3	Kotak Mutual Fund	20 Jun 2007	Approx. 1 gram	KOTAKGC
4	Reliance Mutual Fund	15 Oct 2007	Approx. 1 gram	RELGOLD
5	Quantum Mutual Fund	24 Jan 2008	Approx. 1/2gram	QGOLDHALF
6	SBI Mutual Fund	30 Mar 2009	Approx. 1 gram	SBIGETS
7	Religare Mutual Fund	28 Jan 2010	Approx. 1 gram	RELIGAREGO
8	HDFC Mutual Fund	25-Jun-2010	Approx. 1 gram	Not Yet Listed
9	ICICI Prudential Mutual Fund	28-Jun-2010	Approx. 1 gram	Not Yet Listed

Source: Computed from the data given in www.onemiint.com, www.moneycontrol.com,www.nse-india.com

6. Interview excerpts of market experts on Gold ETF

Gold, the metal dear to Indians, is measuring less profitable. On 15 April 2013, gold was almost 20% less expensive than its record-breaking high of ₹ 32,460 for every 10 gm accomplished on 26 November 2012.

Gold, state market analysts, can slide further to restore a loss amid the year, following 12 successive long periods of yearly gains. Commodity experts refer to the continuous financial crisis in the Eurozone and anticipated decrease in India's gold imports as the reasons. Any price appreciation in three-four years will be moderate. Investors should purchase gold just in the event that they can remain contributed for somewhere around 10 years" says Raghvendra Nath, Managing Director, LADDERUP Wealth Management.

"The present unrest in the gold market caused by the emergency in Cyprus may hold gold costs under pressure for some more time," opined Vedika Narvekar, Senior Research expert (commodities), Angel Broking. "Likewise, the metal has lost its safe haven claim as risk apetite has expanded because of enhancement in the worldwide economic outlook. Facilitating expansion in real economies has likewise decreased the interest for safe haven," Narvekar concluded.

As per a report of the World Gold Council, gold interest in 2012 was somewhere near 12%. Be that as it may, the market saw a 41% expansion sought after in the October-December 2012 quarter from the year-back period. The interest for the valuable metal in the quarter was 261.9 tons in value terms. Interest for adornments and investment achieved their most abnormal amounts in six quarters. Amid the quarter, the interest for adornments rose 35% year-on-year to achieve 153 tons, while 108.9 tons was bought for investment. In India, the possibility of increment in price because of a hike in duty, which came into power in January 2013, might have encouragd individuals to purchase. After the hike in duty, India

imported around 200 tons of gold in January-March 2013, a 24% decay from a year prior.

"Fall in gold interest is viewed as the consequence of climb in the import duty to 6% that was declared in 2012," says Narvekar. As per CRISIL Research, if gold costs support at lower levels, utilization could develop at a quicker pace. In any case, instability in costs could confine investment demand in the near term. The possibility of any important recuperation in gold stays frail.

"Given the absence of any real triggers in the near term, gold costs are probably not going to switch the downtrend at any point in the near future," says Kishore Narne, Head of Products, Motilal Oswal Securities. "Little spurts in costs are especially conceivable, given the rate at which the gold's value has declined. Be that as it may, such bounces will be trailed by a decrease in costs. The metal can withdraw 12-15% from here in residential markets amid 2013-14," Narne includes.

Basant Vaid, Assistant Vice President (commodities), Globe Capital, agrees with Narne. "The yellow metal can reach ₹ 24,900 for every 10 grams in the following couple of quarters," says Vaid.

1.1.7 Comparison between E-Gold, Physical Gold and Gold ETF's

Though E-Gold, physical gold and Gold ETF's are different investment avenues of Gold, there are certain similarities and dissimilarities in their features, which discriminates one avenue from another.

1.1.7.1 Comparison between E Gold and Gold ETF's

A little additional return can hugely affect savings throughout the years. The discussion about differences between physical gold and gold exchange-traded funds, or benefits of ETFs, was settled in favour of the latter a long time ago. Presently, e-gold, another item that offers introduction to the gold market, is making a case for the crown.

E-gold, an electronic method to purchase the physical gold, gives preferable returns over gold ETFs. In 2012, it returned more than 16 percent contrasted with the 11 percent normal return given by gold ETFs. In 2011, e-gold and gold ETFs had returned 32 percent and 31 percent, separately.

Experts state e-gold will dependably beat gold ETFs in returns as the latter's net asset value, or NAV, is processed in the wake of deducting the expense of the advantage the board organization in addition to storage and custodian charges, which differ from fund to fund. The expense of trading e-gold in the spot market is nominal.

"The upside of purchasing e-gold is cost adequacy. In e-gold, there are no recurring costs, for example, the management fee. This diminishes the expense and builds returns year-on-year. Along these lines, e-gold is progressively successful in the long haul," says Anil Rego, organizer and CEO, Right Horizons.

1.1.7.2 Comparative Chart for Gold ETFs and Physical Gold

A comparative chart for Gold ETF's and Physical Gold based on nine criterias are depicted in Table 1.2

Table 1.2: Chart for Gold ETFs and Physical Gold

Criteria	Gold ETFs	Physical Gold	
		Jewelers	**Banks**
Sale & Purchase	Demate Form	Bar/Coins/Jewelry	Bar/Coins
Selling Back	Sell back on Exchange	Conditional or Unconditional	Markup, 10-15%
Security of Asset	Responsibility of Fund	Investor's concern	Investor's concern
Transparency	Very High	Very low	High
Impurity Risk	Nil	High	Nil
Pricing	Transparent	Neither standard nor Transparent	Not Standard
Denomination	1 Gram and in Multiples of 1 gram	Standard Denomination	Standard Denomination
Wealth Tax	No	Yes	Yes
LTCG Tax	Applicable after 1 year	Applicable after 3 year	Applicable after 3 year

Source: Ferri (2007)

1.2 Research Gap

With the rising digitalizing approaches upon Gold purchase, the investment prospects upon Gold ETF's and the absence of pooling of funds in this area, research studies to understanding factors responsible for boosting Gold ETF investments should be given a prime focus. I hold that this center is under-spoken to, in Investment literature, as most literature reveals insight into impacts and effects relating to ventures made in predominantly Secondary Market instead of Gold under the Commodity Derivatives Market. Under these conditions a research study is considered relevant taking Kerala as the Population and its locale from

north, central and southern districts as the sample to know the behavioural finance, social, economic and technical traits that impacts Gold ETF Investments. The study is performed by gathering essential information from individual and institutional investors involved in security trading. This study is hoped to be the first of its kind in making a careful examination of gold investments with regards to a growing economy with focus on Kerala. The results of the study could be utilized to comprehend the relevance of behavioural finance, vis-a vis social, economic and technical factors in relation to regular economic, financial and administrative measures intended to boost investment choices.

1.3 Statement of Problem

In India, gold ETF's were propelled fundamentally with the intention of building liquidity for better market proficiency. However, even after the introduction of Gold ETF's, a lion's shares of investors are still unaware of this potential avenue and are least bothered to capitalize this market. Further, Indians love to purchase physical gold resulted in the absence of pooling of funds towards this segment. But limited studies are available to properly understand the reasons behind this action. Hence an attempt to frame an evaluative record of the behavioral finance, socio-economic and technical attributes that influences the decision making of investors, specifically those of Kerala, while making Gold ETF investments were conducted to help fill the gaps where accuracy is not established in determining how far these factors influence the investors to make an investment decision towards this particular alternative.

1.4 Working Definitions

Table 1.3: Operational Definition

Sl No	Concept	Definition as per study
1	**Quantum of investment**	Level of investment
2	**High level investor**	An investor who makes a contribution of over 25% of his/her total investment value towards Gold ETF
3	**Medium level investor**	An investor who makes a contribution ranging between 10-25% of his/her total investment value towards Gold ETF
4	**Low level investor**	An investor who makes a contribution of less than 10% of his/her total investment value towards Gold ETF
5	**Overconfidence bias**	Individuals are additionally presumptuousness about beneficial things occurring in future than awful. Likewise, individuals overestimate their certainty to the past positive results and more often than not review just their triumphs than their disappointments.
6	**Herd bahaviour**	Tendency of an investor to follow what and how others perform at Gold EX
7	**Regret aversion**	Human creatures tend to feel the agony or the dread of disappointment at having made mistakes. All things considered, to stay away from the torment of disappointment, individuals will in general modify their conduct, which may wind up being nonsensical on occasion.
8	**Mental accounting**	Tendency for people to divide their money into separate accounts based on criteria like the source and intent for the money
9	**Representative bias**	individuals make Judgment based on how much it is: (I) comparable in fundamental properties to its parent company and; (ii) reflects the striking features of the procedure by which it is produced
10	**Hindsight bias**	The hindsight bias represents how people believe that after the fact, the occurrence of an event was completely obvious
11	**Behavioural Finance**	A relatively new branch of Science explaining the irrational behavior of investors using concepts including overconfidence bias, mental accounting, herd behavior, representative bias, regret aversion and hind sight bias
12	**Social factors**	The factors which are likely to effect the social living status of investors including motive for investment, awareness and basic needs, provisions of investment, investment expectation and economic growth
13	**Economic factors**	The factors which delivers high economic ease to the investment made by an investor including future risk, improper investor education and expected return
14	**Technical factors**	The factors which discuss the technical know-how of the working of Gold EX including investment preference and knowledge, source of investment information. Ration decision making attributes, investment perception, business environment (political and cultural) and source of investment diversification.

1.5 Research Objectives

The research problem is directed to find out the behavioural finance, socio-economic, and technical factors affecting investors' decisions on the quantum of investment in Gold ETF at the time of portfolio diversification. Hence the study is directed

1) To explore the behavioural finance factors influencing Gold Exchange Traded Funds Investment decisions in Kerala
2) To explore the social factors influencing Gold Exchange Traded Funds Investment decisions in Kerala
3) To explore the economic factors influencing Gold Exchange Traded Funds Investment decisions in Kerala
4) To explore the technical factors influencing Gold Exchange Traded Funds Investment decisions in Kerala
5) To find out the discriminating ability of these factors (behavioural finance, social, economic and technical) in distinguishing the quantum of investments.

1.6 Model of the Study

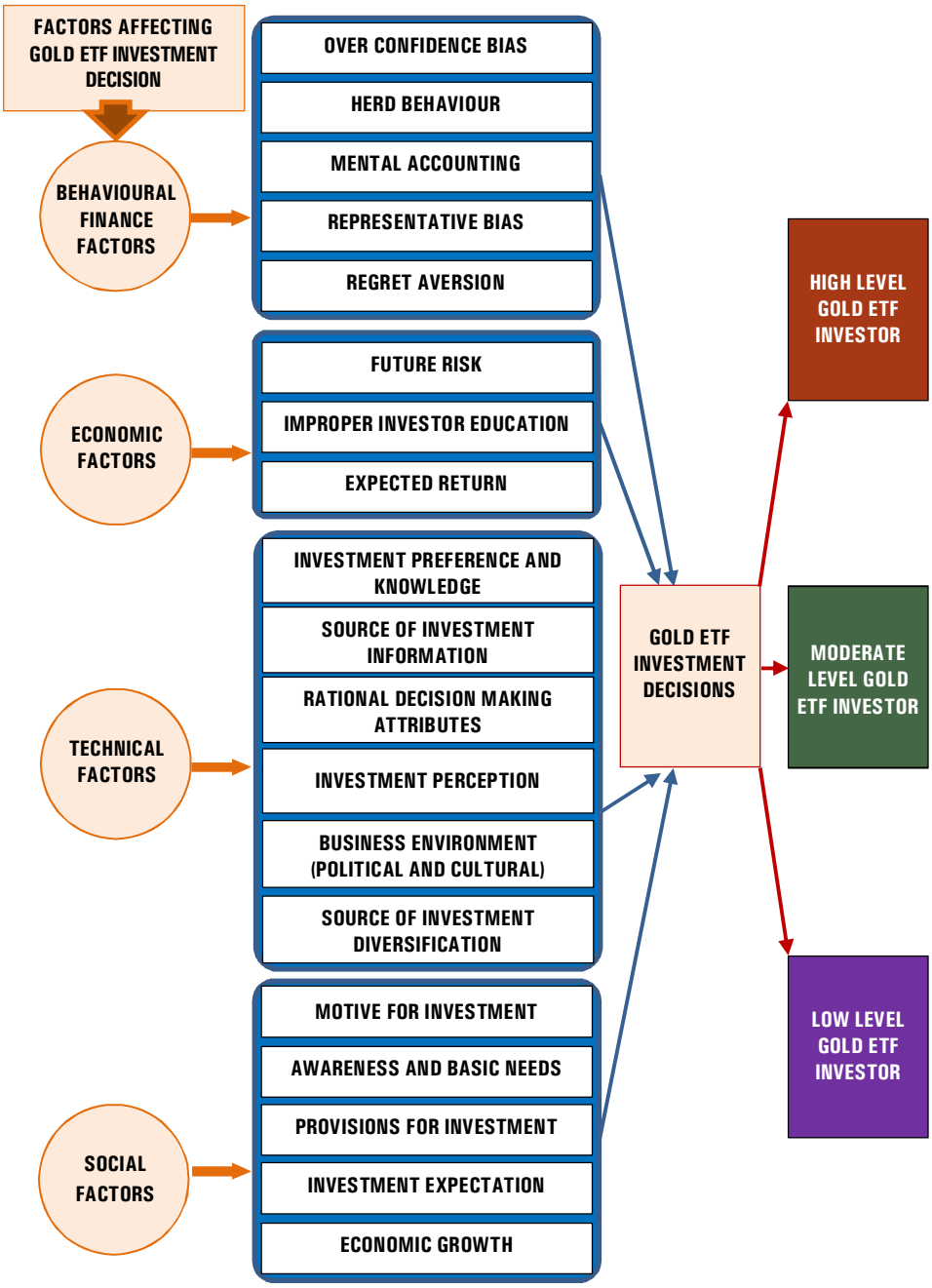


Fig. 1.3: Presents the model proposed for the study

1.7 Relevance of the Study

A common conclusion in many studies is that not enough is known about how and why individuals invest. The present study is expected to be first of its kind and as such is expected to make a further commitment to the body of literature on the subject. Further, the results of the study could be used as a reference in deciding the applicability of behavioural finance theories along with socio-economic and technical factors over conventional financial and economic theories governing investment decisions.

In India, despite the fact that ETFs have been in presence for over 10 years, they are making their presence felt gradually. The real motivation behind why ETFs have not gotten up to speed as much in India as they have in the U.S. Furthermore, in Europe it is presumably a direct result of the lesser motivating forces to advertise ETFs when contrasted with mutual funds, which reserve higher sums for promoting their products. Additionally, the ETFs in India are inactively overseen. On the off chance that the ETFs were to be effectively overseen (consequently giving higher returns to the investors), ETFs would grab the eye of the contributing crew. Policymakers should think of better arrangements to improve the development of ETFs. In addition, since ETFs are one of the methods of disinvestment later on, policymakers ought to effectively consider advancing the development of ETFs. Further, the results of my study have vital policy implications for Asset Management Companies (AMCs) as they can position their products reasonably in the market by capitalizing Gold ETF investors for futuristic business.

1.8 Scope and Limitations of the Study

Now it is widely acknowledged that the launch of gold exchange-traded fund products has had a very significant impact on the gold market and now forms an integral part of it. The recent launch of Gold Monetization Scheme-with its core objective to mobilize the gold held by households and institutions in the country, make it available to banks and Jewelers, reduce gold imports, improve liquidity in market and make customers' gold secure and a performing Asset- were an impetus to Gold ETF Investments. But Investors from Kerala make considerable investments in equity derivatives rather than Gold ETF's even under the current technologically changing scenario. Hence an evaluative record of the behavioural finance, socio-economic and technical attributes that influences their decision making while making investments would be used as a reference to deciding the applicability of conventional financial and economic theories governing investment decisions.

Further, the scope of the present study has been confined to Gold ETF Investors in Kerala region only. Field survey was led amid 2015 - 2017. As the findings and conclusions of this study are based on data collected from the selected Gold ETF investors in the study area, it cannot be generalized for the entire nation. The methodology followed and tools employed in the analysis of the data involved certain merits as well as demerits of their own and also reflect the limitations of the database. Reluctance to reveal financial trading information from the side of investors is a big hurdle to cross through. Trading volume and approximate trading volume per month were difficult to gather and

limited number of potential Gold ETF investors to create sample pool in itself was found as a biggest limitation. Data relating to capital, borrowings and quantum of investment by investors were assembled from the chose Gold ETF investors straightforwardly. There were no appropriate records to be assembled at the individual or firm dimension. Subsequently the data given by the respondents may not be precise. Nonetheless, most extreme consideration was taken by the researcher to guarantee precision, by embracing cross checking strategies. Limited information on the research topic to serve as secondary data and to review previous literature forced the researcher to focus mostly on primary data alone.

1.9 Presentation of the Study

The study is organized under eight chapters. The first chapter provides a prologue to the study. It includes the fall outs and ramifications of Gold as an Emotional and Economic asset, transformation of Gold from emotional to economic asset in the current economic scenario, trading basics while investing in commodities including Gold ETF, introduction to Gold ETF Universe, its Global and National standards, comparative account between physical gold, Gold ETF and E-gold, relevance, need and scope of the study, brief outline regarding the methodology used for the study, limitations and Likely Contribution to the Body of Knowledge.

The second chapter reviews the literature related to this study. Chapter three condenses the Methodology, Pilot Survey of the Research Topic, Questionnaire Design, Statistical Tools Employed, Presentation and Conceptual Model of the Study.

The fourth chapter clarifies the demographic profile and general information of the sample set (395 samples) used for the study. Different attributes including gender, marital status, house ownership, age, educational background, occupation/profession, family size, number of earning members, monthly income, experience in the market and source of investment were considered in determining the relationship between each characteristic and Gold ETF Investment level. Though the population constitutes Gold ETF Investors alone, there are differences exhibited in expression of each of the above characteristic. These are studied in detail and are interpreted based exclusively from the frequency table. The fifth chapter explains the research objectives in exploring the Behavioural Finance factors, Social factors, Economic factors and Technical factors influencing Gold Exchange Traded Funds Investments in Kerala using Exploratory Factor Analysis method for reducing data. Reliability/Validity/Consistency checks are also conducted as a prelude to Factor Analysis for ensuring the sufficiency and strength of data.

The sixth chapter explores the discriminating ability of Behavioural Finance, Social, Economic and Technical factors in distinguishing the quantum of investments in Gold ETF Investors based on Discriminant Function Analysis. Chapter seven summarizes findings uncovered, suggestions contributed by the researcher to the research community and conclusive statements by the researcher, trailed by the Annexures forming the concluding Chapter which corroborates every other chapter, the chapter being bibliography, clearly pointing all the references used and utilized throughout the research by the researcher, notes, displaying the academic briefing of various concepts used in the study and

Questionnaire verifying the questions used for gathering information regarding the influential factors behind Gold ETF Investment.

1.10 Likely Contribution to the Body of Knowledge

The study maintains its unique position by offering a predictive analytic model, based on the discriminating ability of behavioural finance, socio-economic and technical factors in distinguishing a Gold ETF investor into High, Medium and Low level, which could be used in capitalizing Gold ETF investors for futuristic business. To the best of my knowledge, such a study was not conducted earlier.

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Chapter 2

REVIEW OF THEORY AND LITERATURE

Contents

After providing an introduction to the study in the first Chapter, this chapter is devoted to review the literature available on the subject. Large number of studies on the investors' perceptions about investment in Exchange Traded Fund (ETF) has been carried out during the past decades. Some of the reviews about investment in ETF and Gold as individual commodities and Gold ETF specifically, followed by literature gathered on factors influencing Gold ETF investments and uniqueness of the study through identification of research gap are summarized here.

2.1 Introduction

The world we live in is a mix of individuals with numerous inclinations and perspectives. Their eagerness to put resources into a specific portfolio, eventually of time, was clarified utilizing different factual factors secured under ordinary economic and financial theoretical frame-work. However, with the high points and low points of market structure and up shooting of mechanical progressions, similar to World Wide Web, Internet and Intranet, market members came to bifurcate from the line drawn by these refined theories. There came a phase when no longer the social propensities towards investment could be given an entire clarification under the organized factors and conventional money related investments. Under these conditions the idea of Behavioral Finance asserts its appreciation. Behavioral Finance is a moderately new field that tries to consolidate behavioral and cognitive psychological theories with customary economic and financial aspects to give clarifications to why individuals settle on nonsensical monetary choices. It is not necessarily the case that customary hypothesis isn't significant, but instead that the expansion of Behavioral Finance can additionally clear up how the monetary markets function.

For some time, theoretical and observational proofs proposed that economic models, theories and other objective financial investments worked to perfection of anticipating and clarifying certain occasions. In any case, as time went on, theorists in both economic and financial disciplines began to discover irregularities and practices that couldn't be clarified by theories accessible at the time. While these theories could

clarify certain "glorified" occasions, this present reality ended up being an exceptionally untidy place in which market members regularly acted unusually. Behavioral Finance, Social, Economic and Technical attributes were found to assume a vital job to result in this shift.

2.2 An overview to the concept of ETF

ETFs speak to offers of possession in either support, unit venture trusts, or storehouse receipts that hold arrangement of normal stocks which intently track the performance and profit yield of explicit records, either wide market, division or universal. Exchange traded fund offer investors the chance to purchase or move a whole arrangement of stocks in a solitary security, as effectively as purchasing or moving an offer of stock. They offer a wide scope of investment openings. While like an index mutual fund, exchange traded fund contrast from mutual funds in huge ways. Not at all like Index mutual funds, exchange traded fund are evaluated and can be purchased and sold all through the trading day. Moreover, exchange traded fund can be sold short and purchased on edge (Rompotis 2005).

The exchange traded fund industry has developed emphatically in a moderately brief timeframe, with the business pulling in more prominent consideration as it develops in size. The first intrigue to investors of these items was their straightforwardness, minimal effort expansion advantages and capacity to trade intraday. While this is still extensively the case, the development of the business has brought about a more prominent assortment of exchange traded fund getting to be accessible to investors and enhanced openness to various resource classes. Notwithstanding,

exchange traded fund have additionally turned out to be increasingly mind boggling in the structure and kinds of procedures they utilize in generating returns. These improvements have made new chances and challenges for investors, market participants and controllers. (Interview Excerpts, Survey data, 2017)

Exchange traded funds are progressively discovering support in the worldwide money related markets; foreign institutional investors (FIIs) specifically utilize exchange traded fund to pick up exposure avenues in developing markets. In India also exchange traded fund are making their presence felt, even though at a slow pace comparative on a global scale. Indeed, exchange traded fund are one of the disinvestment modes proposed by the Indian government for public sector undertaking. After advancement in 1991, foreign institutional investors have assumed a noteworthy job in the Indian securities exchange. It has been assessed that a sizable lump of FII streams came through seaward and India-centered value assets and exchange traded fund. Notably, a few India-explicit exchange traded fund that exist in the U.S. focus solely on Indian stocks. The advantages of seaward value assets and India-centered exchange traded fund were 55.84 billion dollars in 2010 and 37 billion dollars in 2012. (Interview Excerpts, Survey data, 2016)

2.2.1 Comparative Account on pricing efficiency of ETF's and NAV

Numerous earlier researches inspected the valuing proficiency of exchange traded fund, wherein the distinction between exchange traded fund costs and NAVs was explored. Ackert et.al (2000) found that the U.S. exchange traded fund are valued closer to their NAVs than the

nation exchange traded fund are. Looking at the tracking error and performance of exchange traded fund, Elton et al. (2002) found that SPDR exchange traded fund failed to meet expectations the S&P 500 record by a normal of 28 basis points per annum; they likewise observed the tracking errors to be little. While Elton et al. (2002) revealed that the premiums or limits are monetarily not huge, Engle et.al (2006) found that the premiums or limits are bring down for local exchange traded fund. Poterba et.al (2002) analyzed the performance of SPDRs and featured the expense favorable circumstances of exchange traded fund because of their extraordinary in-kind creation and reclamation. Rompotis (2005) looked at the performance of exchange traded fund and index funds that track a similar index and demonstrated that the profits delivered by them are relatively comparative and that they didn't give any overabundance returns over their basic index. Rompotis (2005) likewise shown that tracking error is firmly subject to the cost proportion and danger of exchange traded fund. Gallagher and Seagara (2006) researched the performance of traditional exchange traded fund in Australia and detailed that the variety between the NAV and the traded cost is little. Svetina (2010) found that in spite of the fact that exchange traded fund fail to meet expectations their benchmark records, they really beat the index funds. In the Indian setting, Prasanna (2012) inspected the performance of Indian exchange traded fund and found that gold exchange traded fund give returns in abundance of 13% contrasted with the profits offered by the equity market. In any case, the performance of exchange traded fund was not contrasted with that of index funds.

2.2.2 Comparison between ETFS and Index Mutual Funds

Kostovetsky (2003) considered relative performance of the exchange traded fund and Index mutual funds from the investors' perspective. He detailed key zones of contrasts between the two in terms of management charges, investors' task expenses, tax assessment capability, and the subjective components exchange appropriateness, short moving, and capacity to edge. His center finding was that Index mutual funds are more qualified for small investors and exchange traded fund are ideal by vast investors.

2.2.3 Advantages of Investments in ETF

A few studies on exchange traded fund, their trading attributes and advantages (Gallagher et.al, 2005; Jares et.al, 2004 and Kostovetsky, 2003). Milonas et.al (2006) led a study on the performance and the trading qualities of the exchange traded fund. Gastineau (2001) depicted the inception, fundamental sorts and the advantages of exchange traded fund. Carty (2001) gives a few attributes of exchange traded fund like adaptability, accommodation, risk enhancement, assess effectiveness and cost favorable circumstances.

Exchange traded fund are an incredibly effective type of basket securities, which empower investors to trade a portfolio effortlessly and rapidly in a single transaction. Further, exchange traded fund allow investors to get the advantages of portfolio expansion and track the performances of underlying indexes without incurring high transaction costs (Lin et al, 2006).

In the present money related market exchange traded funds are viewed as an exceptionally important mean of investment. The exchange traded fund has risen as best advancement and exchange traded fund industry demonstrated fast development in the last decade, with a 5-year normal yearly development rate of 33 percent (Schuster, 2008).

2.3 An overview to the concept of Gold as an Investment vehicle

Today, investors has numerous investment alternatives to contribute and gold happens to be a standout amongst other choices to be incorporated into the portfolios for broadening of risk. Gold is the most seasoned valuable metal and it has been esteemed as a worldwide money, an item, a investment and furthermore an image of magnificence. For a considerable length of time, gold has remained a propitious blessing, a legacy esteem, regardless of whether it's for another conceived infant or for a recently hitched couple. Gold gets go down ages and has turned out to be a decent investment over decades. Numerous monetary counsels are recommending 5% to10% gold in their customers' portfolios. Gold turned out to be the best option for the investors where value markets are failing to meet expectations. Numerous investors defend their benefits by making an interest in valuable metals, most amazingly silver and gold. Gold has always outflanked other traditional resource classes, for example, monetary forms, obligation, value, and different wares paying little respect to the vast majority of financial and business cycles. In any case, there are various routes by which we can put resources into bullion. A portion of the approaches to put resources into gold will be gold exchange traded fund, gold bonds, gold bars, coins, gold gems and so forth.

Because of their ignorance, there is a misconviction among dominant part of Keralites that gold is an incredible asset only against inflation. Investors are not very much aware of increasingly gainful gold ventures like exchange traded fund, futures and alternatives on gold which will be a greatly improved instrument to than physical gold. Investors are happy with their investment in gold adornments and they hold it for significant lot of time. An ongoing report by Karvy Private Wealth says that the four south Indian states represent over 40% of the country's general gold investment. So increasingly beneficial investment openings in gold must be acquainted with, by the investors particularly in a state like Kerala where a lion share of all out gold utilization in India belongs with.

Studies identifying with including Gold as a medium while broadening portfolios had been bottomless. Beginning with Jaffe (1989) who demonstrates that the expansion of gold to different speculative portfolios expands the normal return while lessening the standard deviation, trailed by Hillier et al. (2006) who takes note of that the major benefit of valuable metals is appeared to be their capacity to fence antagonistic economic situations on the grounds that valuable metals perform best amid times of high market volatility.

Chua et al. (1990) and Jaffe (1998) found the advantages of diversifying investment portfolios with gold stocks and for the most part observed a diversifying impact for gold. Chua et al. discovered, that the beta of gold bullion remained for all intents and purposes vague from zero through 1970's and 1980's and gold was an important investment for enhancement for both long-run and short-run. By utilizing information

from 1971 to 1987, Jaffe built 4 portfolios reflecting assignments of ordinary substantial institutional portfolios with each being distinctive in risk and return. He found that including 5% gold into these portfolios diminished the risk and diversified the return of these portfolios and with 10% gold, the advantages increased much more.

David H. et al. (2006) investigate the investment role of precious metals in financial markets by breaking down the day by day information for gold, platinum and silver from 1976 to 2004. The authors' state that every one of the three valuable metals have low correlations with stock index returns and propose that these metals may give diversification within broad investment portfolios. Further, the information revealed that three valuable metals exhibits some hedging capability, especially amid times of irregular stock market volatility.

This point were substantiated by Hiller et al. (2006) in his article who dissected the jobs of gold, silver and platinum in the capital market and found that portfolios which contain valuable metals perform superior to standard value portfolio. Hillier et al. (2006) analyzed the diversification advantages of gold in the US markets and global markets. They utilized information from period 1976-2004 for S&P 500 and EAFE and found that gold was particularly valuable diversifier in periods with high instability and poor execution. When looking at buy-and-hold strategy against switching strategy with gold they found that the former was better and in the course of the most recent 25 years, holding 9.5% gold in portfolio was the ideal allocation.

Mitchell Ratner et al. (2008) in their research analyzed the estimation of holding gold to US investors' from 1975 – 2005 and presumed that there is some material advantage to putting resources into gold over the long haul. Mitchell Ratner and Steven Klein (Spring 2008), contemplated the effect of holding gold as a investment for US investor dependent on the information for the years 1975 to 2005 out of two circumstances gold as an independent resource and gold as a piece of worldwide investment portfolio and inferred that as an independent resource, there was an extra ordinary appreciation in gold in specific timeframes however in a long run the US securities exchange Index outperformed the gold favorable position by basic strategy for Buy and Hold. The other end was that there exist a low connection between US Stock and Gold and that adding gold to the portfolio results in marginal long term benefits to the US investors.

Natalie Dempster et al. (2009) subsequent to studying the inter-relationship between four resource classes specifically Gold (represented by closing gold rate in New York), Commodities (represented by S&P, GSCI), Real estate (represented by BBREITs) and Treasury Bills (TIPS) reason that gold demonstrated more successful than the other three resources at accomplishing both the most maximum risk- reward portfolio and minimum-variance portfolio by using a portfolio optimizer. They likewise discovered that gold conveys extra broadening to the portfolio including the above three resources.

Mansor H. Ibrahim et al. (2010) examined the day by day information for the period 2001 to 2010 of Malaysian market and

presumed that job of Gold as an investment in the ongoing years has changed and that it goes about as a safe haven, as a fence however its job as a diversification asset debilitates in an extreme economic situation.

In any case, the first ponder which formally tests if gold is a fence or safe haven was finished by Baur and Lucey (2010). They find that gold is a support against stocks by and large and a safe haven in outrageous securities exchange conditions utilizing every day information from 1995 to 2005. Another study on this specific subject was by Baur and McDermott (2010), who inspected the job of gold in the worldwide financial framework by testing the theory that gold speaks to a safe haven against stocks of major rising and developed nations.

Dirk G. Baur et al. (2010) in their article, "Is gold a safe haven? International evidence" demonstrates that gold is both a hedge and a safe haven for real European securities exchanges and the US however not for Australia, Canada, Japan and expansive developing markets, for example, the BRIC nations. They additionally recognize a weak and strong type of the safe haven and contend that gold may go about as a stabilizing force for the financial system by diminishing misfortunes despite extraordinary negative market stuns. Taking a gander at explicit emergency periods, they found that gold was a strong safe haven for most developed markets amid the pinnacle of the ongoing financial crisis.

Mansor, Ibrahim H. (2011) in the study " Financial Market Risk and Gold Investment in an Emerging Market: The Case of Malaysia" inspected the connection between gold return and stock market return and

whether its connection changes in the midst of sequential negative market returns for a developing business sector, Malaysia. The study uncovered a noteworthy positive yet low connection between gold and once-slacked stock returns. Additionally, successive negative market returns don't appear to increase the co-development between the gold and stock market as regularly recorded among national stock exchanges in the midst of financial turbulences. To be sure, there was some proof that the gold market surges when faced with consecutive market declines. In light of these outcomes, there are potential advantages of gold investment amid times of stock market droops.

Jalpa Thakkar et al. (2013) in their article "An Empirical study on Gold Investment Range Among Professionals" published in International Journal of Research and Management called attention to that extraordinary avenues of gold investment accessible in the market and furthermore attempted to discover the psychology and disposition towards the elective techniques for gold investment among the chose investors in the Pune district.

Lujia Wang (2012) in the study " Investment in Gold: An Empirical Study of the Gold Return from 90s to 21st" analyzed how gold ought to be contributed, both by and large and in the basic conditions. Considering the testing time frame from 1991 to 2011, with month to month perceptions, the discoveries are the following: the return of gold has a solid positive relationship with the difference in the inflation rate; the return of oil is, to some degree, decidedly identified with the return on gold, while the connection isn't solid; the return of stocks and the

difference in loan costs are ended up being not identified with the return of gold.

M Nishad Nawaz (2013) in his article "Study on various forms of gold investment" featured the requirement for empowering demand in new gold choices. He guaranteed that gold ends up tradable and creates income as opposed to lying inactive as a dead venture.

2.4 An overview to the concept of Gold ETF

India's residential generation of gold is extremely restricted; the rising demand must be sourced from outside the nation. As India imports the greater part of its gold prerequisite, high estimation of gold imports has now begun harming India's present record position. Therefore government ought to empower methods for substitute gold investment. In addition, Gold as an item all alone does not add a lot to the gainful limit of the economy as when one purchases gold, it either is put away in lockers or gets changed over into adornments. In both the cases, cash spent on buying gold gets blocked (Assocham, 2011). Consequently observing the pattern of gold utilization in India, it appears that creating awareness about the diverse gold investment avenues and trading such avenues can help in cutting down the investment of physical gold. According to a World Gold Council Report, India has one of the most noteworthy saving rates on the planet; assessed at around 30 percent of absolute pay, of which 10 percent is invested into gold. Thus it is critical that the monetary area takes advantage of this gigantic saving store in new investment tracks. In any case, investment ought to be of such kind that may create exceptional return with least risk and that is convenient to

do. At these criteria gold is much appealing and most beneficial as far as return is considered in the current situation. Investors over the world purchase gold as an investment and the investment rate has ascended in the course of the most recent couple of years. It is primarily sheltered and sound type of Investment from the perspective of extensive worldwide investors who go for ensuring safeguarding of their investments in the current global monetary vulnerability. A developing scope of techniques currently enables investors to either purchase gold, or basically gain presentation to gold price developments. From gold coins, online records, exchange traded funds and complex money related items, to mining stocks, the most proper gold investment will rely on the investors particular necessities and outlook. (World Gold Council).

The historical backdrop of gold exchange traded fund has begun from Canada. The principal gold exchange traded fund item was "Central Fund of Canada", a closed-end fund established in 1961. It later altered its articles of incorporation in 1983 to furnish investors with an exchange tradable item for ownership of gold and silver bullion. It has been recorded on Toronto Stock Exchange since 1966 and the AMEX since 1986. In India, the possibility of gold exchange traded fund was first conceptualized by Benchmark Asset Management Company Private Limited when they documented a proposition with the Securities Board of India (SEBI) in May 2002. However it didn't get endorsement at first and later in 2007, it was propelled.

Gold exchange traded fund are open-ended mutual fund schemes that will put the cash gathered from investors in standard gold bullion

(0.995 virtue). The investor's holding will be meant in units, which will be recorded on a stock trade. These are latently overseen reserves and are intended to give returns that would nearly follow the profits from physical gold in the spot market. An investor can purchase and recover the units either specifically from the mutual fund, subject to specific stipulations, or from the stock exchange.

The highlights which draw in investors previously putting resources into explicit plans are its duty proficient returns, liquidity and productive expansion. It is likewise recognized that gold moves for the most part pair with crude as latter flags inflation, while gold is a hedge against it. It for the most part has opposite connection with dollar as the two go after investments.

Gold exchange traded fund are characterized in a few different ways. As indicated by Bang (2009) gold exchange traded fund is fundamentally an open-ended mutual fund that puts resources into standard gold bullion as its hidden resource. It is otherwise called paper gold. These instruments are recorded on the stock exchanges and, henceforth, can be purchased and sold simply like purchasing and moving of shares. The first gold exchange-traded fund was propelled in March 2003 on the Australian Stock Exchange (Bloomenthal, 2008). In U.S. the Gold exchange traded fund trading started on the New York Stock Exchange (NYSE) in 2004. These exchange traded fund are traded under the image "GLD". Distinctive individuals characterize and see GLDs in an unexpected way. A few individuals see that they will claim physical gold by putting resources into the shares of Gold exchange traded fund.

In any case, it's not the correct recognition. The goal of GLDs isn't to furnish investors with the chance to possess gold bullion by putting resources into the shares of gold exchange traded fund, but is intended to follow the cost of gold. Gold exchange traded fund Index Fund is a sort of gold-based resources. It tracks the gold cost and each share speaks to one-tenth of an ounce of gold. With ease in transaction, stockpiling security, exchange expenses and low liquidity, transactional transparency and numerous other investment focal points, gold exchange traded fund has turned out to be generally acknowledged.

Jill Leyland Economic Advisers to World Gold Council said that the boundless capability of gold exchange traded fund is of high enthusiasm for those nations who have not yet presented such items. He further called attention to that, notwithstanding protection funds, different offices, for example, open funds, sovereign riches funds, venture to gold exchange traded fund additionally raise the demand for gold. Nedeljkovic (2005) depicted that gold exchange traded fund, contrasted with some other organized items, are exceptionally straightforward structures. He further, depicted that there is no credit risk and demand in gold exchange traded fund is open and transparent. Gold exchange traded fund are recorded on a stock exchange, cited in nearby cash, with no base investment. The other significant attributes of gold exchange traded fund are their cost viability, security, and high liquidity (Nedeljkovic, 2005).

Bakul Chugani (May 2010) in his article has pointed that the gold exchange traded fund have checked in about

8.7% increases, fortifying its job as a fence against expansion and additionally equity markets as Sensex has declined by about - 5.6% amid a similar period. He additionally called attention to that, since the dispatch of gold exchange traded fund in mid-2007, they have developed as a solid resource class, creating over 27% returns (CAGR) in the previous three years against the Sensex returns of pretty much 4% CAGR amid this period. He further substantiated that the expanding demand for gold is apparent from the development in the Assets under Management (AUM) of gold exchange traded fund. Amid the period April 2010 - May 2010, the AUM of gold exchange traded fund has flooded by about 10% from ₹ 1,650 crore to ₹ 1,815 crore. Actually, the AUM has ascended by over 100% in the previous one year the most astounding yearly development seen by gold exchange traded fund since their dispatch three years back.

Dipak Mondal (2010) suggested that investors should take introduction in gold by purchasing either physical gold, gold exchange traded fund or even units of mutual funds, which invest in the supplies of gold mining organizations. He likewise added that because of the emergency in the European Union, most monetary standards are seeing high unpredictability and except if world monetary forms achieve some sort of harmony, costs of gold would keep on going up. In the plain present moment, there are conceivable outcomes of a revision however gold, either in physical shape or in mutual fund units, keeps on being an exceptionally great venture device.

Fisher records five reasons why the yellow metal remains the most generally acknowledged and reliable resource class. The reasons are

Effective Portfolio Diversifier, Thrives under most exceedingly bad conditions, Hedge against swelling, Linkage with oil and US Dollar and Widening request and supply Gap. He recommended that gold must be made a piece of the benefit distribution since it is an incredible risk diversifier and considered as a place of refuge amid times of monetary vulnerability, political struggle, high swelling and wars. Fisher in his article referenced that gold exchange traded funds have made putting resources into the yellow metal extremely helpful and reasonable. He communicated that they offer a method for taking demand in the gold bullion market without the need of physical conveyance of gold. He drilled down six reasons why gold exchange traded fund are considered as the most ideal approach to put resources into the gold. The reasons referenced are Wealth assess exclusion, Income charge advantage, Investment in little categories, Hedging, Convenience and better holding of exchange traded fund when contrasted with physical gold property.

Tim Pullen et al. (2011) observed by utilizing day by day information over the notice time frame that the broadening, supporting and safe haven properties of gold bullion, gold stocks, gold mutual funds and gold exchange traded funds. To start with, as to gold bullion, they record a clear and solid supporting job over a minor expanding ability. Second, their outcomes feature that gold stocks, gold mutual funds and gold exchange traded fund will in general be diversifiers. Third, both gold bullion and gold exchange traded fund indicate bolster for the safe haven property. Notwithstanding, gold stocks and gold mutual funds show almost no proof of the safe haven trademark. Thus, investors who are enthused about anchoring safe haven highlights of gold investment can't for the most

part depend on gold stocks or mutual funds. Rather, they have to take positions specifically in bullion or gold exchange traded fund.

2.4.1 The Status of the Global Gold ETF

At present, exchange traded fund demand for gold has turned into the quickest developing region; its development rate is higher than gems and mechanical utilization. The demand for gold exchange traded fund and comparative items is quickly expanding over the time; exchange traded fund demand in 2009, at 594.7 tons, was 85 percent higher than in 2008. As indicated by measurements, the principal gold exchange traded fund since its commencement in March 2003, roughly pulled in 180 billion U.S. dollars venture, which is proportional to 650 metric huge amounts of gold, representing 10 percent of the world's aggregate demand. Amid this period, the cost of gold additionally rose to twofold. Before the presentation of the gold exchange traded fund there was no immediate association in commodity markets to support the danger of the stock and security markets. Around then the fundamental venture was through the buy of gold stocks and funds to hedge risk, however such ways lacks straightforwardness, liquidity, and furthermore bear gold mine activities and the danger of mismanagement.

Ross Norman (2010) a universally known gold examiner at The Bullion Desk, said gold exchange traded fund market has significantly enhanced its accessibility in a brief span. The main gold exchange traded fund recorded on the Australian Stock Exchange (ASX) propelled under the image "GOLD", has made a decent prologue to the deals, just in June raised on 340 million ounces of gold, this additionally pulled in the

worldwide network to the gold exchange traded fund. As the New York Stock Exchange's fruitful posting Street TRACKS Gold Shares, gold exchange traded fund open a prelude to a fast advancement. From that point forward, the United Kingdom, South Africa, Switzerland, India and different nations additionally have propelled comparative items. Gold exchange traded fund trading gold on the enlarged channels, one hand enhanced the worldwide market gold demand, and on the other additionally grows the market limit.

Table 2.1 demonstrates the significant gold exchange traded fund traded on the planet

Table 2.1: Major Gold ETFs Traded in the World

Sl No	Name of Gold ETFs	Exchange Traded on
1	Gold Bullion Securities(GOLD)	Australia
2	Street TRACKS Gold Shares ETF(GLD)	New York/ Singapore
3	iSHARES COMEX Gold Trust(IAU)	America
4	Market Vector TR Gold Miners(GDX)	America
5	LyxOR Gold Bullion Securities(LyxOR GBS)	London/Europe
6	New Gold Debentures Johannesburg,	South Africa
7	ZKB	Switzerland
8	GOLDIST	Turkey
9	Benchmark gold ETF	India
10	**UTI Mutual Fund**	India

Source: Bloomberg

2.4.2 Benefits on investing in Gold ETF

Since the theme under study includes the idea of gold exchange traded funds and the writings whereupon while gathering were barely found, there still were studies with explicit notice to benefits while making investments in exchange traded fund in general or sometimes gold exchange traded fund explicitly.

Prasanta Athma (2011) has expressed that gold exchange traded fund is a rising choice of the different investment choices accessible to the investor. The low unpredictability of gold costs when contrasted with equity market, debilitating of Indian Rupee against US Dollar and developing uncertainty about worldwide economy brought about the rise of gold exchange traded fund as a solid resource class. Allotment of a little part of investment in gold exchange traded fund would enhance the portfolio chance. The adjustment of Expense Ratio made the undertaking of choice of the best gold exchange traded fund choice simple. Incorporation of any gold exchange traded fund in the arrangement of advantages would expand the risk. Gold exchange traded fund likewise offer the advantage of lower occurrence of duty. In spite of the benefits of holding gold exchange traded fund, the demand in the equivalent is low because of the low mindfulness among the investors and the nostalgic connection of the investors towards holding gold in the physical shape.

Pullen et al. (2011) analyzed the safe haven, supporting and expanding properties of gold stocks, gold bullion, gold exchange traded fund and gold mutual funds. They found that these will in general be diversifiers. Both gold bullion and gold exchange traded fund indicated

bolster for the property of safe haven however there was almost no proof of the safe haven attributes in the event of gold mutual funds and gold stocks and along these lines, the investors who were enthused about anchoring safe haven highlights of gold, couldn't by and large trust on gold mutual funds or gold stocks. Rather, they expected to take coordinate exposures in gold exchange traded fund or bullion.

Mukul et al. (2012) affirmed that demand in gold gave a superior month to month return in respect to a diversified equity fund. They found that investors ought to contribute a specific extent of their funds in gold. Gold mutual funds or gold exchange traded fund, along these lines, turned into a perfect instrument for venture. The investor likewise require not be worried about the gold being stolen or harmed by whatever reason. Highlights like ease in transaction and high liquidity further presented the defense for gold exchange traded fund venture more grounded.

Mukesh Kumar Mukul et al. (2012) made a study on "Gold Exchange Traded Fund Performance: A Comparative Analysis of Monthly Returns" uncovered that Gold investment has been a critical angle for a long time over the globe. This paper endeavors to dissect the performance of gold exchange traded fund regarding danger and return against the broadened equity fund and market portfolio. The study likewise analyzes the job of gold in supporting equity investment risk. The study depends on information for the period from January 2010 to August 2011. The study demonstrates that gold exchange traded fund has given great return in contrast with a diversified equity fund amid the study time frame.

M. Jayanthi, et al. (2013) in their article expresses that gold exchange traded fund offer investors an advantageous way and methods for putting resources into gold as a security without the issues of capacity and wellbeing concerns emerging because of it. It additionally saves the investors from stressing over the immaculateness and nature of gold. It additionally gives different advantages, for example, electronic trading and Demat stockpiling and giving a way to expand one's venture portfolio. But in the meantime, the study demonstrated that a considerable lot of the gold exchange traded fund as of now accessible in the Indian market display a huge deviation from real gold returns. This issue is more articulated in India than in developed markets. This implies as gold costs rise or fall, the gold exchange traded fund esteem ought to likewise rise or tumble to that degree. In any case, all the time, the net resource estimation of the gold exchange traded fund gives a skewed picture. It doesn't precisely mirror the development in hidden gold costs. Thus, Gold exchange traded fund end up being a decent venture alternative for investors to support their benefits against the questionable worldwide market situation.

Mohammed Saleem et al. (2013) in their article " The overview of gold exchange traded fund and its various positive features "published in the International Journal of Marketing, Financial administrations and Management Research attempts to clarify similar study of gold exchange traded fund v/s Physical gold and it additionally give center around gold exchange traded fund as a solid and appealing investment alternative for the investor. Gold exchange traded fund gives additional use to its clients as far as the benefit.

M. Nishad Nawaz et al. (2013) in their article " A study on various forms of gold investment " expresses that 94 percent of investors feel that demand in exchange traded fund is simple type of investment as it doesn't require physical frame and require legitimate learning to access the market. As per the authors, exchange traded fund are simple to access and it needn't bother with high information, as it includes an easy trading mechanism. They recommend investors to put resources into gold exchange traded fund where conceivable outcomes of misfortunes are restricted.

Baur (2013) demonstrated that gold exchange traded fund were more fluid than its hidden physical bars and coins and that this liquidity fluctuated through time and relied upon the structure of the exchange traded fund, i.e. regardless of whether the exchange traded fund was physically-sponsored or manufactured. They saw that the introduction of exchange traded fund was at any rate mostly in charge of the solid increment of the cost of gold somewhere in the range of 2002 and 2011. They additionally guaranteed that the unpredictability of gold had been expanded due to the simplicity of trading encouraged by gold exchange traded fund.

Velmurugan P. S. et al. (2013) has embraced a near report on putting resources into gold related resources with a goal to analyze the performance of gold related instruments, specifically, gold exchange traded fund, Gold mutual funds and physical gold and furthermore to find out the better investment among the returns of gold exchange traded fund and gold mutual fund. The researcher has considered the auxiliary

information for the period from April 2007 and September 2012 and did ANOVA and LSD tests. The outcomes reasoned that there is a critical contrast among the gold exchange traded fund, Gold Mutual Funds and physical gold. The measurements demonstrate that returns of gold exchange traded fund is higher than physical type of gold and furthermore Gold Mutual Funds. It was demonstrated exactly that making investment in Gold related resources to be specific; gold exchange traded fund are progressively beneficial contrasted with putting resources into Gold Mutual Fund venture.

Maulzi (2013) in his work has expressed that the demand for gold exchange traded funds in India is prone to detonate as investors get acquainted with online method of contributing. He further includes that, gold costs in India have picked up 29 percent in the year 2011.

2.5 Factors influencing Commodity Derivative Investments as a whole

Rakhi Arora et al. (2008) state risk and return are the two indistinguishable parts of a venture methodology. They have coordinate connection between them: higher the dangers, higher are the profits and the other way around. The simple essential thought of an investor while contributing the cash ought to be the manner by which to boost the profits and what are the dangers associated with putting resources into a specific instrument.

K Sudhai et al. (2014) in their research on paper" A Study on Investment Pattern of Investors of Jewelry at Pattukkottai Town" published in the International Journal of Engineering research, 2014, saw

that the investment pattern of investors in jewelry and the venture choices are driven by number of variables, for example, pay of the family, monetary conditions, assess considerations, etc.. The study inferred that the investors are prepared to put resources into the long haul and less risk item since they know about outcomes of momentary venture plan.

2.6 Behavioural Finance as an explanation to Derivative Investment Avenues

Behavioral finance can be characterized as the use of psychology to clarify market peculiarities. As indicated by Statman (1999), individuals are rational in standard [neoclassical] finance; they are normal in Behavioral finance. Behavioral finance models take into consideration the likelihood that market members can commit errors in their valuations (psychological mistakes). Research in Behavioral finance spreads an assortment of points, for example, representativeness bias, overconfidence, self-serving bias, gambler's fallacy, hindsight, panic, herding behavior, status quo, survivorship bias, money illusion, loss aversion, attachment, disposition effect, recovery, familiarity, illusion of control, home bias, conservatism and even narcissism. In numerous regards the assumptions underlying behavioral finance models are like those used to develop customary models, yet the following contrasts are observed: (i) investors don't just consider mean-difference configurations to settle on investment choices as they might be impacted by other non-measurable attributes, for example, taste, inclination and other psychological elements; (ii) investors may see drifts despite the fact that no conspicuous example is available; (iii) blemished information exists within the sight of trader heterogeneity; (iv) diverse investors will in general have distinctive investment

openings, contingent upon taste, while herding may result in a typical taste; and (v) the market isn't really in harmony, and keeping in mind that arbitrage opportunities exist they might be liable to market sentiment.

On analyzing the development period of research in behavioral finance a few observations were made. One of the earliest contributions was made by Selden (1912) who proposed, some time before the rise of behavioral finance as an order or school of thought, that stock value developments depended essentially on the psychological demeanor of market members. It was, be that as it may, Tversky et al. (1973, 1974, 1981) who made the most huge contributions to the field, including the development of the heuristics of availability, representativeness, anchoring and framing. Their most essential contribution, in any case, was the development of prospect theory (Tversky and Kahneman, 1979), which Thaler (1980) supported as an alternative descriptive theory. Shiller (1981) was the first to depict the efficient market hypothesis (the foundation of neoclassical finance) as a scholastic model that bears little to reality. Noteworthy contributions have been made about the expected utility theory (Yaari, 1987), status quo bias (Samuelson & Zechauser, 1988), loss aversion (Kahneman, et al., 1990), the equity premium puzzle (Benartzi, et al., 1995), and the disposition effect (Odean, 1998). Obviously, this rundown of important contributions isn't exhaustive.

Roll's (1986) "hubris hypothesis" of takeovers depends on the overconfidence among directors, which drives them to overestimate the additions to be produced using corporate action.

The behavioral models have been best in clarifying stock value inconsistencies identified with overreaction, under reaction, momentum strategies, herding behavior, firm size effect and BV/MV ratio effects. Barberis et al. (1996) detailed a model of security cost over and under-reaction to data when investor judgment is one-sided by conservatism and the representativeness heuristic.

Daniel, et al. (1998) clarified occasion related price abnormalities as per the intellectual inclinations of investor overconfidence and self-attribution. Daniel et al. (2000) clarified the prevalent returns of an energy contributing system in the course of recent years as the consequence of investors' inclination towards overconfidence.

Dremen et al. (2000) displayed proof that investor under and overreaction exist and are a piece of the equivalent psychological process. A standout amongst the most compelling projects of research on the trading conduct of individual investors has been directed by Barber and Odean, who figured out how to acquire the trading records of 35,000 investors with records at a discount brokerage. The authors discover proof of inordinate trading decreasing returns (Barber et al., 1999, 2000; Odean 1999) and ascribe the outcome to Overconfidence. Psychology Research commonly discovers men are more confident than ladies, and predictable with this, Barber and Odean (2001) find that men trade more than ladies and acquire lower returns. Barber et al. (1999; Odean 1998) additionally discover proof of the disposition impact (as do Shefrin and Statman 1985), in which investors are hesitant to acknowledge losses and will in general move winners and hold losers. In the discount brokerage data,

stocks sold would in general improve the situation in this manner than those held or used to replace those sold.

Hodgson et al. (2000) give an expert's perspective of behavioural finance predispositions dependent on the authors' encounters of giving investment counsel to pension funds and different establishments.

Chan (2001) found that an extensive stock value change, unsupported by news, by and large was trailed by a measurably peculiar price trend reversal throughout the following month. Chan (2001) outlined the price trend reversals regularly happen when a dominant part of market operators pursue a similar contributing methodology (purchasing or moving), unsupported by new data. Proof of investor herding is introduced.

Schacter et al. (1987) exhibited investors' inclinations to strengthen existing price patterns and brief price reversals. Statistical support for the possibility of a general similarity in investors' behavior before price trend reversals ("contrarianism") is explained by Chan (2001).

Chopra et al. (1992) gave convincing proof in support of that investors make silly conjectures of future sources of income. In the event that excessive optimism or pessimism is driving these silly estimates, income declaration dates ought to give the stimulus to redress. Barberis et al. (2001) affirmed that the information does in reality demonstrate bizarre remedial movement following profit declarations from these organizations. Barberis et al. give a thorough survey of behavioral finance literature. In any case, Shiller (1998) proposed that portrayals of overreaction and under reaction are not liable to be great psychological

foundations whereupon to sort out a general hypothesis of economic conduct. Cognitive biases deficiently recognize the behavioral motivations causing price anomalies.

Proof recommends that singular investors neglect to act soundly in even very straightforward circumstances. Elton et al. (2004) look at investors' decisions of index funds. Expenses fluctuate crosswise over funds, and given almost indistinguishable investment techniques, the varieties drive unsurprising contrasts in performance. In spite of this consistency, numerous investors put resources into high-charge funds with (unsurprising) sub-par performance.

Malmendier et al. (2005) contend that overconfident management overestimates the profits on investment tasks and views outer funds as excessively exorbitant.

Hong et al. (2005) observe that mutual fund managers herd regarding the stocks that they purchase or move amid a specific quarter. Coval et al. (2005) demonstrate that merchants at the Chicago Board of Trade (CBOT) are loss averse and slanted to go out on a limb toward the afternoon on the off chance that they have had misfortunes in the first part of the day. Their activity has no less than a transient impact on prices. In an exploratory setting, Haigh et al. (2005) demonstrate that CBOT merchants show myopic loss aversion for a more noteworthy degree than do students. Wood (2006) gives an intriguing discourse of the behavioural biases that may influence investment boards of trustees.

Huberman et al. (2006), utilizing a bigger and progressively proper dataset, discover proof rather for a restrictive 1/n approach in which investors pick three or four funds from the range offered and after that allot similarly among them. For this situation, fund allocation has less impact on asset allocation.

As Baker et al. (2007) take note of, the expansion of behavioural thoughts to corporate fund has taken two unmistakable ways. The primary way, which takes the view that investors are not exactly completely sound, breaks down the corporate financing choices made by the executives because of the behaviour of investors—that is, the rational managers settle on choices in light of the mispricing of securities by typically behaviourally biased investors. The second way holds that corporate supervisors can be liable to behavioural biases and that a portion of the corporate fund trades they embrace are the aftereffect of those biases. Baker et al. (2007) take note of that the second, "irrational managers," way is fairly less developed than the first way, which centers around managerial reactions to market mispricing.

All the more as of late, Doukas et al. (2007) ascertain a proportion of the executives overconfidence and find overconfident managers 'organizations earn lower merger declaration returns and have poorer long haul share value performance.

Further experimental help for the thought that finance choice choices are influenced by behavioral biases originates from Frazzini et al. (Forthcoming, 2008), who contend that mutual fund investor money streams speak to "dumb money." They observe that mutual fund investors

will in general reallocate their money to funds that possess stocks with low future returns.

Camelia Oprean et al. (2014) in their paper on "Impacts of Behavioral Finance on Emerging Capital Markets" observe that trading is affected by the investors' irrational behaviour. Along these lines, the rationality hypothesis can be rejected for both capital markets

Zipporah Nyaboke Onsomu (2014) recommended that investors are influenced by Availability bias, Representativeness bias, Confirmation bias and Disposition effect.

Shoaib Irshad et al. (2016) further saw in their study on Effect of Representativeness Bias on Investment Decision Making that Investors in Islamabad stock trade are utilizing past performance as illustrative of future and contributes with representativeness bias.

2.7 Reviews on Socio- Economic and Technical factors influencing Commodity Derivatives Investment

Each individual is diverse in nature, has distinctive intentions, goals. They vary demographically. Research demonstrates that investor's conduct will be influenced by personality traits, interpretation of information, return and risk, tax aversion, responses to news, sentiments and so forth. (Maital et al.,1986).

William E Warron, et al. (1990), in their study on segmentation of investors based on life style attributes (Attitude, feelings and so on.) and demographics, saw that life style qualities ought to be utilized as a variable for the segmentation. They saw that investors in a similar age or

pay group need not really have the equivalent money related necessities or investment needs. They inferred that lifestyle attitude, all things considered, helps in separating among active and passive investors as well as light and heavy investors in a specific investment class for e.g. Stock and Bonds.

Schemidt and Sevak, Julie R Agnew and et al. (2003) saw that women investors are more risk disinclined than men by and large and thus they put into less dangerous resources. They additionally saw that there is contrast between the quanta of financial proficiency among people. Also, that most likely this is one reason for difference in their investment choices.

Mittal (2008) saw in his study on personality traits and investment decisions that Indian investors are chiefly of four sorts - Casual, Technical, Informal and Cautious.

Kulkanya Napompech (2010) in his study on variables affecting gold utilization for funds and investment purposes, by individuals in the Bangkok Metropolitan Area saw that, sexual orientation, age, instruction and Income level all are related with or impact the gold utilization. Additionally factors, for example, loan fee of Bank stores, political dependability, change in the oil costs, inflation rate, danger of investment, government budgetary arrangements assume imperative job in gold utilization choice.

Manoj Kumar Dash (2010) in his study on "factors impacting Investment Decisions of generations in India" saw that the present

investors are much developed and wants to contribute according to their risk appetite. Those Modern investors settle on their investment choices dependent on data from some source and reference gatherings. Their choices might be affected by overconfidence and narrow framing yet they do consider different factors, for example, security, assessments, hedging, and advantages while contributing.

Anil Suresh (2011) saw that the outlook of the Indian's towards gold (being more than status symbol) has changed yet at the same time the interest for gold has not diminished despite regularly expanding cost and furthermore completed a similar report between individuals' mission for genuine pay, reserve funds and cost of gold to choose which factor really impacts the investment for Gold. The researcher inferred that the investment for gold is a result of savings and individuals' desire for genuine pay and that cultural and socio economic trends will stay to be the hidden explanations behind the investment.

D. Harikanth et al. (Nov 2012), in their paper on behavioural finance presumed that Income level and occupation assumes vital job in the determination of investment roads. They additionally saw that factors like security, intermittent returns, tax reduction, anchored future assume an imperative job in the decision making process and that male investors are prepared to accept more risk when contrasted with female investors.

Ananthapadhmanabha Achar (2012), in his research paper "Saving and Investment Behavior of teachers - An empirical study " saw that singular attributes of teachers, for example, age, sexual orientation, marital status, and life style decided the savings and investment behavior

of teaching community. What's more, in comparative way, their family qualities, for example, month to month family salary, phase of family life cycle, and childhood status rose as determinants of their savings and investment behavior.

P. Bhanu Sireesha et al. (2013), in their study on impact of demographic factors, (for example, sexual orientation, age, training, occupation and so forth.) on investment avenues, saw that demographic factor acts as a deciding factor, while deciding on investment vehicle, in investors. It was likewise seen that Income alongside savings demonstrated an effect on the motivation behind Investment and that Friends for the most part impact the investment choices.

Mittal, V. Sujata et al. (2013) in their study on impact of lifestyle perceptions on gold purchase decision saw that gender affects gold purchasing conduct. Lifestyle were ordered into three sorts of perception specifically – Attitude, Opinion and Activities and inferred that there is a positive relationship between disposition and gold purchasing conduct of shoppers. They likewise saw that attitude being a capricious factor, steady perusing of attitude is required to foresee purchaser's decision making.

Kirti Arekar et al. (2014) in their research on factors impacting Gold investment decisions of retail clients in India concentrating on an example which covers buyers from the city of Mumbai - the money related center of India., distinguished the most essential components which influence singular investments choice and the distinctions in the view of investors in the choice of contributing on premise of age and sexual orientation. The study infers that there are six critical variables

which influences the investment purchasing conduct i.e. motives, risk & returns, opinions, market information, benefits and security. At long last, the study likewise presumes that the age and sexual orientation fundamentally chooses the risk taking limit of the investors.

B. N. Panda et al. (2012) in their study on Perception of risk and return for individual investments saw that before studies mostly centered on co-connection among gender and investments and that these studies reasoned that women investors are increasingly traditionalist in contrast with men.

The study results of Vinod K. Bhatnagar et al. (2014) on "Investors Psychology towards Investment in Gold" demonstrates that there were seven elements like Preference and Selection, Good returns, Assortment and decrease risk, Substantial and higher return, Assessment, Persuade and Occasion which influence investors' psychology towards interest in Gold. Their research likewise uncovered there is no distinction in the investment psychology of male and female towards Gold. The study attempted to contemplate the Investment psychology towards Gold Investment in Gwalior district. In a definitive analysis of the study, individual and family attributes such as age, sexual orientation, marital status, life style, month to month family salary, and different variables like security, liquidity, investment tool, risks and returns related with Gold investment decides the investment conduct of an investor. It ought to be noticed that this study was completed in one district covering and concentrating on different measurement and the elements of the gold investment in order to an in-depth analysis of the phenomenon. Study

result demonstrates that investors give more tendency to wellbeing, security, exceptional yields, status, investment device and overseeing vulnerability and so forth.

A few studies like " the impact of strategic investment decision-making under extreme uncertainty" (Moataz Moamen Elmassri et al., 2015), investigates of how social, monetary, political, cultural and authoritative impacts affect upon the management accounting and decision making. Carr, Kolehmainen et al. 2010 have given positive outcomes to connection between the presence of between the existence of socio economic factors and investment choice.

Venkatachalam G. et al. (2015) has completed a study on investors' conduct towards gold exchange traded funds in Indian securities exchange with special reference to Tamil Nadu, with a target to consider investors' behaviour towards gold exchange traded funds and to contemplate the connection between socio-economic profile and behaviour of Gold Exchange Traded Funds Investors'. The research was completed in City Corporation of Tamil Nadu with an example of 450 investors. It was found from the factor analysis that investment objectives have the principal factor with most astounding percent of fluctuation pursued by investment decision and investment safety. Out of the 30 financial elements, 22 factors have noteworthy relationship with the investment behaviour. From the cluster analysis, it was additionally uncovered that more than 50 % of the respondents are sure towards Gold Exchange traded Funds. It additionally presumed that investors of gold exchange traded funds need to consider different factors impacting the investments.

2.8 Deductive Conclusion

In the extant literature, the performance of exchange traded fund has been contrasted with different exchange traded fund or has been assessed in connection to spot. Be that as it may, the components impacting the performance of exchange traded fund, explicitly Gold exchange traded fund has not been investigated. With the rising digitalizing approaches upon Gold purchase, the investment prospects upon Gold exchange traded fund and the absence of pooling of funds in this area, research studies to understanding factors responsible for boosting Gold exchange traded fund investments should be given a prime focus. I hold that this center is under-spoken to, in Investment literature, as most literature reveals insight into impacts and effects relating to ventures made in predominantly Secondary Market instead of Gold under the Commodity Derivatives Market. Hence the study positions itself in narrowing this research gap by utilizing essential and freely accessible information and analyzes the discriminating factors differentiating a high level gold exchange traded fund investor from a Middle level gold exchange traded fund investor and Low level gold exchange traded fund Investor through exploring Behavioural Finance, Social, Economic and Technical factors influencing gold exchange traded fund investments. The study further proposes to build a prescient explanatory model dependent on the separating intensity of components extricated to capitalize gold exchange traded fund Investors for modern business.

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Chapter 3

RESEARCH METHODOLOGY

Contents

Previous chapter presented a review of the relevant literature on the subject of the study. This Chapter presents the Methodology—including the questionnaire design, pilot study, statistical tools proposed to be used, population, sampling design, tests for reliability and validity and tools for data collection.

3.1 Research Design

With the problem statement as lack of information towards factors governing Gold ETF investment decisions in investors of Kerala, core objectives were framed which could be summed up to result in an attempt to frame an evaluative record of the behavioral finance, socio-economic and technical attributes that influences the decision making of investors,

specifically those of Kerala, while making Gold ETF investments. Accordingly, the researcher, initially, made an attempt to find out the demographic composition of the sample population to analyze the quantum of investment of each category towards Gold Exchange Traded Funds. Further apt statistical tools were designed and used to explore and identify the discriminating ability of these factors in distinguishing the quantum of investments among investors. The study, hence becomes descriptive in nature. Being a descriptive study a descriptive research design is structured for the study.

3.2 Research Hypotheses

The research hypotheses are based on the research model that behavioural finance, socio-economic and technical factors do not have any discriminating ability to distinguish a high level Gold ETF investor from a moderate level and low level Gold ETF investor.

1) Behavioural finance factors such as over confidence bias, herd behavior, mental accounting, representative bias, regret aversion, and hindsight bias do not have any discriminating ability to distinguish a high level Gold ETF investor from a moderate level and low level Gold ETF investor.

2) **S**ocial factors such as Motive for investment, Awareness and basic needs, Provisions of investment, Investment expectation, and Economic growth do not have any discriminating ability to distinguish a high level Gold ETF investor from a moderate level and low level Gold ETF investor.

3) Economic factors such as Future Risk, Improper investor education and Expected return do not have any discriminating ability to distinguish a high level Gold ETF investor from a moderate level and low level Gold ETF investor.

4) Technical factors such as Investment preference and knowledge, Source of investment information, Rational decision making attributes, Investment perception, Business environment(Political & Cultural) and Source of Investment diversification do not have any discriminating ability to distinguish a high level Gold ETF investor from a moderate level and low level Gold ETF investor.

3.3 Universe and Population

Kerala State formed the Universe, as the study restricted to Gold ETF Investors of Kerala alone whereas all Gold ETF investors of Kerala domain comprises the Population

3.4 Sampling and Sampling Design

The upcoming toll towards digital era and diversified portfolio avenues have given impetus for the growth of investors in the commodity derivatives market including Gold ETF, resulting in its infinite population status. Accordingly, the scope of this study is confined to these Gold ETF investors in Kerala alone. So the samples for the study are drawn from individual Gold ETF investors, investors who actively trade in the Gold Exchange Trade Fund (Gold ETF) market or are active members in the Gold EX. Altogether the sample comprised 395 individual Gold ETF

investors who are distributed over the three zones of Kerala. The samples were selected based on Snowball Sampling method. The sample size is determined on the basis of a formula derived from the results of Pilot Survey (covering 100 Gold ETF investors).

3.4.1 Determination of Sample Size

Sample size was estimated using the formula:

$$\mathbf{N} = \frac{\mathbf{3.84} \times (\mathbf{Standard\ Deviation})^{\mathbf{2}}}{(\mathbf{0.025} \times \mathbf{Mean})^{\mathbf{2}}}$$

3.5 Pilot Study

Questionnaire was exposed to a total of 234 respondents through Internet resources and field survey. An approximate of 138 filled-in questionnaires was received, out of which 100 usable numbers of them were refined and analyzed for the study. The results of pilot survey were used for refining, restructuring and validating the questionnaire, estimating the sample size for the main survey (395 nos.) and estimating the statistical tools to be employed for the research study. The sample size for the main survey was determined on the basis of a Pilot Survey by extracting the mean and standard deviation of key variables in study.

3.6 Reliability Check

As a prelude to Factor Analysis, Reliability Check was conducted to evaluate the impact of behavioural finance, social, economic and technical factors in influencing Gold ETF investments. A value equal to or higher than 0.8 is acceptable

3.6.1 Reliability Check -Behavioural Finance Factors

The reliability check on behavioural finance factors gave a Cronbach's value of 0.874 (Table 3.1). Table 3.2 generated implies the value of Cronbach's Alpha if any of them gets deleted from the scale.

Table 3.1: Reliability Statistics of Behavioral Finance factors

Cronbach's Alpha	N of Items
0.874	18

Table 3.2: Item-Total Statistics of Behavioral Finance factors

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Confidence	84.468	3.514	0.390	0.871
Past Investment Successes	84.476	3.347	0.601	0.864
Complete Knowledge	84.484	3.255	0.668	0.861
Satisfaction	84.476	3.468	0.448	0.869
Technical Analysis	84.478	3.529	0.322	0.874
Indicator	84.481	3.453	0.427	0.870
Recommendations	84.478	3.438	0.429	0.870
Opinion Shifting	84.478	3.357	0.511	0.867
Company news	84.486	3.240	0.582	0.864
Opinion from friends & colleagues	84.484	3.271	0.558	0.865
Borrow money during bearish market	84.486	3.316	0.554	0.865
Book profits	84.489	3.357	0.516	0.867
Trend reversal expectancy	84.473	3.458	0.496	0.868
Lottery tickets purchase	84.491	3.276	0.574	0.864
Invest only on diversified portfolio	84.481	3.377	0.463	0.869
Investment based on time horizon	84.494	3.256	0.465	0.871
Retirement in savings	84.491	3.235	0.631	0.862
Specific Sectors	84.466	3.600	0.218	0.877

It is noted that, if we delete statement "Specific Sectors", Reliability can be increased to 0.877. But there is only a negligible increase and hence it is not attempted.

3.6.2 Reliability Check- Social Factors

Reliability Check on social factors gave a Cronbach's value of 0.897 (Table 3.3). Table 3.4 generated implies the value of Cronbach's Alpha if any of the item gets deleted from scale.

Table 3.3: Reliability Statistics of Social factors

Cronbach's Alpha	N of Items
0.897	20

Table 3.4: Item-Total Statistics of Social factors

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Family Needs	94.332	5.105	0.531	0.893
Emergency Needs	94.337	5.046	0.556	0.892
Safe Life	94.337	5.102	0.474	0.894
Secure Life	94.344	5.028	0.504	0.893
Capital Growth	94.349	4.994	0.506	0.893
Risk free	94.347	4.994	0.527	0.892
Protection from Inflation	94.352	4.939	0.515	0.892
Tax benefits	94.352	4.939	0.515	0.892
Risk Coverage	94.344	4.957	0.508	0.893
Leverage	94.349	4.817	0.632	0.889
Trade value	94.342	4.946	0.583	0.891
Retirement Savings	94.347	4.953	0.497	0.893
Social Obligations	94.342	5.007	0.467	0.894
Festival	94.339	5.088	0.425	0.895
Marriage of Children	94.342	5.012	0.500	0.893
Sense of Pride/Prestige/Status Symbol	94.357	4.824	0.575	0.891
Unaware of Mutual Fund	94.354	4.783	0.635	0.889
Unaware of Gold ETF	94.362	4.709	0.579	0.891
Gold Price	94.362	4.688	0.624	0.889
Increase in income level	94.327	5.220	0.301	0.897

3.6.3 Reliability Check – Economic Factors

Reliability check on economic factors give a Cronbach's value of 0.884 (Table 3.5) Table 3.6 generated implies the value of Cronbach Alpha when any of the item is deleted.

Table 3.5: Reliability Statistics of Economic factors

Cronbach's Alpha	N of Items
0.884	15

Table 3.6: Item-Total Statistics of Economic factors

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Cannot see gold	69.547	2.827	0.556	0.876
Possibility of decrease in value	69.549	2.807	0.631	0.874
Do not understand Stock market	69.577	2.585	0.594	0.876
Unaware of stock market conditions	69.554	2.877	0.441	0.881
Possibility of theft	69.532	3.011	0.359	0.883
Resale value/Price issue	69.575	2.484	0.777	0.864
Physical gold purchase value decreases	69.585	2.365	0.877	0.858
Physical Gold resale value decreases	69.580	2.503	0.753	0.866
Economic Stability	69.549	2.817	0.547	0.877
Increase in income level	69.547	2.908	0.457	0.880
Income level and Maturity date	69.537	3.107	0.112	0.889
Higher Returns (15-20%)	69.559	2.790	0.504	0.878
Beneficial Investment	69.567	2.657	0.581	0.875
Financial Security	69.552	2.806	0.598	0.875
Financial Market Analysis	69.527	3.138	0.129	0.888

It is noted that, if we delete statements "Financial Market Analysis" or "Income level and Maturity date", Reliability could be increased to 0.888 or 0.889 respectively. But there is only a negligible increase and hence it is not attempted.

3.6.4 Reliability Check –Technical Factors

Reliability check on Technical Factors give a Cronbach value of 0.916. (Table 3.7). Table 3.8 generated implies the value of Cronbach's Alpha if any of the item gets deleted from scale.

Table 3.7: Reliability Statistics of Technical factors

Cronbach's Alpha	N of Items
0.916	23

Table 3.8: Item-Total Statistics of Technical factors

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Family Structure	109.177	6.999	0.452	0.915
Social Environment	109.185	6.882	0.516	0.914
Past Investment Experiences	109.205	6.549	0.692	0.910
Government Policies	109.210	6.537	0.666	0.910
Religious Views	109.185	6.994	0.377	0.916
Political Views	109.190	6.860	0.492	0.914
Expert decisions	109.190	6.819	0.493	0.914
Well-wishers Decisions	109.200	6.627	0.575	0.912
Suggestion from peers	109.192	6.709	0.547	0.913
Suggestion from relatives	109.185	6.821	0.534	0.913
Suggestion from financial advisor	109.208	6.510	0.634	0.911
Prefer Long-term Gold ETF investment	109.208	6.469	0.609	0.912
Prefer Traditional Avenues	109.192	6.668	0.587	0.912
Prefer less risky investment avenues	109.175	7.043	0.422	0.915
Prefer Short-term Gold ETF investment	109.205	6.585	0.657	0.911
Sufficient information regarding investment tools	109.220	6.558	0.585	0.912
Risk reduction through portfolio diversification	109.200	6.759	0.520	0.913
Financial Publications through Internet	109.185	6.994	0.377	0.916
Financial Publications through Media	109.213	6.620	0.542	0.913
Good knowledge of Investment plans	109.203	6.588	0.631	0.911
Good knowledge of financial planning	109.203	6.685	0.508	0.914
Follow-up of investment tools' performance of return	109.192	6.780	0.514	0.913
High level of Self confidence	109.187	6.828	0.555	0.913

3.7 Discriminant Validity of the Scales

If the scale is to have a Discriminant Validity, the scale should be able to distinguish the lower quadrant to that of an upper quadrant significantly. That means, if the scores on a scale are grouped into lower values and higher values the average lower values should be significantly different from average upper value.

Correspondingly, a two-tailed test assuming equal variances (t-test) for two population means ($\mu 1$ and $\mu 2$), with unknown population standard deviations ($\sigma 1$ and $\sigma 2$) for two-independent samples, were conducted at the significance level,α=.05, and the degrees of freedom, df=198.

Accordingly, null and alternate hypothesis were framed as:

Ho: $\mu 1 = \mu 2$

Ha: $\mu 1 \neq \mu 2$

Assuming that the population variances are equal, the t-statistic were computed, the details of which are exhibited in the Table 3.9

Table 3.9: Shows t-test for two population means (μ1 and μ2), with unknown population standard deviations (σ1 and σ2) for two-independent samples, assuming equal variances

Sample size, n=100

Sl No	Lower quadrant mean	Lower quadrant standard deviation	Upper quadrant mean	Upper quadrant standard deviation	t-statistic value	Level of significance at 0.05
1	2.3	0.42	4.2	0.24	-39.27	P<0.05
2	2.6	0.48	3.25	0.280	-11.697	P<0.05
3	2.8	0.58	3.36	0.48	-7.438	P<0.05
4	2.4	0.49	3.15	0.26	-13.521	P<0.05
5	2.68	0.46	3.18	0.28	-9.285	P<0.05
6	2.33	0.489	3.6	0.24	-23.315	P<0.05
7	2.12	0.489	3.58	0.269	-26.16	P<0.05
8	2.15	0.489	3.65	0.215	-28.081	P<0.05
9	2.69	0.496	3.28	0.236	-10.741	P<0.05
10	2.7	0.489	3.69	0.214	-18.547	P<0.05
11	2.33	0.458	4.25	0.259	-36.491	P<0.05
12	2.14	0.498	4.36	0.268	-39.255	P<0.05
13	2.35	0.412	4.8	0.248	-50.948	P<0.05
14	2.68	0.415	4.69	0.239	-41.971	P<0.05
15	2.66	0.489	4.135	0.248	-26.902	P<0.05
16	2.45	0.436	4.239	0.269	-34.921	P<0.05
17	2.36	0.478	4.258	0.258	-34.942	P<0.05
18	1.25	0.41	3.985	0.236	-57.814	P<0.05
19	1.26	0.42	3.658	0.248	-49.164	P<0.05
20	2.25	0.48	4.259	0.268	-36.544	P<0.05
21	2.26	0.47	4.39	0.215	-41.212	P<0.05
22	2.58	0.48	4.21	0.216	-30.967	P<0.05
23	2.69	0.42	4.28	0.248	-32.598	P<0.05
24	2.87	0.46	4.38	0.259	-28.604	P<0.05
25	2.63	0.489	4.57	0.237	-35.701	P<0.05
26	2.527	0.412	4.93	0.269	-48.837	P<0.05
27	2.569	0.456	4.85	0.218	-45.13	P<0.05
28	2.369	0.478	4.86	0.239	-46.611	P<0.05
29	2.54	0.489	4.89	0.247	-42.896	P<0.05
30	2.79	0.426	4.57	0.289	-34.578	P<0.05
31	2.36	0.476	4.39	0.269	-37.128	P<0.05
32	2.59	0.483	4.358	0.215	-33.441	P<0.05
33	2.14	0.472	4.398	0.26	-41.902	P<0.05
34	2.19	0.43	4.327	0.29	-41.203	P<0.05

35	2.61	0.412	4.259	0.24	-34.584	P<0.05
36	2.58	0.432	4.589	0.28	-39.024	P<0.05
37	2.95	0.489	4.698	0.267	-31.374	P<0.05
38	2.54	0.439	4.639	0.291	-39.853	P<0.05
39	2.83	0.476	4.258	0.267	-26.165	P<0.05
40	2.73	0.415	4.369	0.298	-32.08	P<0.05
41	2.53	0.485	4.789	0.218	-42.483	P<0.05
42	2.44	0.496	4.259	0.239	-33.038	P<0.05
43	2.59	0.478	4.123	0.258	-28.223	P<0.05
44	2.336	0.436	4.589	0.248	-44.916	P<0.05
45	2.148	0.493	4.158	0.256	-36.183	P<0.05
46	2.547	0.476	4.157	0.239	-30.227	P<0.05
47	2.369	0.415	4.236	0.249	-38.577	P<0.05
48	2.145	0.425	3.589	0.268	-28.74	P<0.05
49	2.324	0.487	3.694	0.267	-24.667	P<0.05
50	2.359	0.461	3.987	0.219	-31.898	P<0.05
51	2.336	0.478	3.159	0.239	-15.4	P<0.05
52	2.15	0.492	3.654	0.25	-27.253	P<0.05
53	2.35	0.487	3.789	0.27	-25.842	P<0.05
54	2.98	0.453	3.549	0.288	-10.6	P<0.05
55	2.84	0.419	4.982	0.299	-41.613	P<0.05
56	2.36	0.429	4.697	0.214	-48.747	P<0.05
57	2.48	0.479	4.368	0.234	-35.415	P<0.05
58	2.55	0.489	4.157	0.238	-29.549	P<0.05
59	2.93	0.487	4.368	0.219	-26.93	P<0.05
60	2.87	0.487	4.256	0.264	-25.02	P<0.05
61	1.98	0.463	4.157	0.257	-41.111	P<0.05
62	1.58	0.489	4.156	0.218	-48.114	P<0.05
63	1.96	0.431	4.359	0.264	-47.465	P<0.05
64	2.68	0.491	4.157	0.297	-25.739	P<0.05
65	2.69	0.473	4.259	0.248	-29.378	P<0.05
66	2.57	0.483	4.318	0.28	-31.31	P<0.05
67	2.539	0.47	4.792	0.244	-42.545	P<0.05
68	2.348	0.49	4.795	0.266	-43.889	P<0.05
69	2.159	0.43	4.318	0.277	-42.209	P<0.05
70	2.853	0.416	4.67	0.255	-37.239	P<0.05
71	2.64	0.473	4.59	0.236	-36.889	P<0.05
72	2.97	0.468	4.18	0.249	-22.825	P<0.05
73	2.74	0.497	4.89	0.273	-37.916	P<0.05
74	2.358	0.435	4.76	0.283	-46.285	P<0.05
75	2.91	0.422	4.692	0.292	-34.725	P<0.05
76	1.87	0.429	4.31	0.22	-50.61	P<0.05

Using the P-value approach, since p=0<.05, it is concluded that the null hypothesis is rejected in all the cases. It is hence concluded that the null hypothesis Ho is *rejected.* Therefore, there is enough evidence to claim that population mean μ1 is different than μ2, at the .05 significance level.

3.8 Types and Sources of Data

Both primary and secondary data are used for the study. Initially the State was divided into three zones, namely south, central and north One district from each zone with higher shareholder density were selected for collecting primary data. The districts so selected are. Trivandrum from South Zone, Ernakulam from Central Zone and Calicut from Northern Zone. The selected districts have higher Gold Consumption and so the chances of making Gold ETF Investments are high in these districts. They also have better exposure to major IT hubs of Kerala (Techno Park, the largest IT employer in Trivandrum, Info Park in Kochi and Cyber Park in Calicut). This justifies the selection of sample districts.

A structured questionnaire was used to collect information from the respondents. The used questionnaire is a modified version of the one that was used for conducting the pilot study covering 100 Gold ETF investors. The Questionnaire was distributed to 585 respondents selected on snowballing method. Of these 480 respondents returned the questionnaire after filling. But only 395 of them were found to be useable. Cronbach's Alpha Test was conducted to test the data sufficiency. Secondary data were collected from published sources.

3.8.1 Structure of the Questionnaire Used for the Study

The questionnaire were divided into three sections. Section 1 covered the factors pertaining to Gold ETF investment decision. This section includes questions to identify the socio-economic and technical factors influencing the Gold ETF investment decision. It is also used to perform a behavioural finance analysis of Gold ETF investors in examining their quantum of investment in Kerala. Accordingly a five point scale were designed to place answers to questions targeted towards identifying their motive for investment, awareness and basic needs, provisions for investment, investment expectation, economic growth, future risk, expected return, investor education level, investment preference and knowledge, source of investment information, rational decision making attributes, investment perception, business environment (both cultural and political) and source of investment diversification. Six concepts of Behavioural finance namely Overconfidence bias, Mental accounting, Herd behavior, Representative bias, regret aversion and hindsight bias were also tested in this section. Section 2 cover Investment Attributes of the investors. Here questions are used to analyze the Gold ETF investment pattern by ranking the alternatives based on proportion of investment and determining the approximate size and trading volume per month towards Gold ETF investment by investors. Section 3 covered the demographic profile of the respondents were demographic variables including age, gender, marital status, education level, occupation/ profession, monthly income, house ownership, family size, number of earning members, experience in the market and source of investment. These data were collected for gathering information regarding their

demographic status as well as to check the ETF investment level across these variables and measure the level of association between them.

3.9 Statistical Tools Employed

Standard statistical tools were employed to analyze data and fulfill objectives to frame recommendations to the study. The data were analyzed with the help of SPSS. Statistical tools employed include the following:

1) KMO and Bartlett's Test,
2) Exploratory Factor Analysis (EFA) [Communalities of each variable's variance, Total variance extracted under Principal Component Analysis, Scree Plot, Rotated Component Matrix)
3) Discriminant Function Analysis (DFA) [Descriptive / Group Statistics, Tests of Equality of Group Means, Eigenvalues, Wilks' Lambda, Standardized Canonical Discriminant Function Coefficients, Canonical Discriminant Function Coefficients, Functions at Group Centroids]

Chapter 4

DEMOGRAPHIC PROFILE AND ETF INVESTMENT LEVEL OF INVESTORS

Contents

This chapter explains the demographic profile and general information of the 395 respondents participated in the study. Gender, marital status, house ownership, age, educational background, occupation/profession, family size, number of earning members, monthly income, experience in the market and source of investment were considered in determining the relationship between each characteristic and Gold ETF Investment level. Though the population constitutes only Gold ETF Investors, differences are exhibited in expression of each of the above characteristic. These are studied in detail and interpretations are based exclusively from the frequency table.

4.1 Frequency Table

Table 4.1 shows the frequencies and percent values of 395 respondents when different demographic variables are considered.

Table 4.1: Frequency Table of all demographic variables combined

Sl No	Demographic Variable	Categories	Frequency	Percent
I	Gender	Male	266	**67.3**
		Female	129	**32.7**
		Total	395	100
II	Marital status	Married	254	**64.3**
		Unmarried	141	**35.7**
		Total	395	100
III	House ownership	Own	380	**96.2**
		Rented/leased	15	**3.8**
		Total	395	100
IV	Age	20-29	48	**12.2**
		30-39	159	**40.3**
		40-60	159	**40.3**
		Above 60	29	**7.3**
		Total	395	100
V	Educational background	School education	49	**12.4**
		College education	129	**32.7**
		Professional	192	**48.6**
		Others	25	**6.3**
		Total	395	100
VI	Occupation/ profession	Salaried	1	**0.3**
		Professional	175	**44.3**
		Business	196	**49.6**
		Others	23	**5.8**
		Total	395	100
VII	Family size	Less than four	9	**2.3**
		Four- six	79	**20.0**
		Six-eight	285	**72.2**
		Above eight	22	**5.6**
		Total	395	100
VIII	Number of earning members	One	3	**0.8**
		Two	119	**30.1**
		Three	221	**55.9**
		Four and above	52	**13.2**
		Total	395	100
IX	Monthly income	Upto ₹ 20000/-	8	**2.0**
		₹ 20001- 40000/-	63	**15.9**
		₹ 40001-60000/-	125	**31.6**
		Above ₹ 60000/-	199	**50.4**
		Total	395	100
X	Trade experience in the Market	0-5 Years	34	**8.6**
		6-10 Years	150	**38.0**
		11-15 Years	166	**42.0**
		16-20 Years	45	**11.4**
		Total	395	100
XI	Source of investment	Both	395	**100**

From Table 4.1 it is evident that among the 395 respondents 67.3% were males and 32.7%, females. This clearly shows that females are also equally interested in making Gold ETF Investments and diversifying their portfolio. 64.3% of the respondents were married and 35.7%, unmarried. The Table shows that of the 395 respondents, 96.2% had their own house while 3.8%, lived in rented/leased house property, exhibiting the fact that investors with their own house property invested more in Gold ETF rather than those staying in rented/leased property.

Table 4.1 reveals that among the 395 respondents, 12.2% belonged to the age-group of 20 to29, 40.3%, to the 30 to 39, 40.3 % to the 40 to 60 and 7.3% to the above 60 age-group. This clearly shows that majority of the investors fall under the 30 to 60 age-group and they are mature enough to make rational investment decisions. Among the 395 sample investors 12.4% have only basic elementary / school education, 32.7%, College education, 48.6%, professional education and the remaining 6.3%, other/ technical qualification. Since ETF trading requires some amount of ETF trading knowledge and information, it was expected that respondents with higher education would make higher proportion of Gold ETF Investors.

Of the 395 sample investors only 0.3% belonged to the salaried class, 44.3%, to the professional group, 49.6%, business magnets and the remaining 5.8%, engaged in other occupations. It is clear from the data that business magnets are high risk takers and they are closely followed by professional groups. They invest more in Gold ETF vis-à-vis others. Though available data suggest that Gold ETF investment gives higher

return and is a comparatively safer option, it has its own level of risk because of the fluctuations in the Gold Ex market.

Further according to the results depicted in Table 4.1, among the 395 sample respondents, 2.3% investors had a family size less than four, 20%, a family size of 4 to 6 members, 72.2%, a family size of 6 to 8 members and 5.6%, a family size of above 8 members. Least contribution towards Gold ETF Investments is made by the sample group with family size less than four members. Investors with an average family size of 6 to 8 members make higher contribution towards Gold ETF Investment. But as the family size goes beyond 8 members, the investor gets more focused in making investments with steady income and avoids all sorts of risky avenues.

Of the 395 sample Gold ETF investment families, families with more than three earning members make more investment in Gold ETF and least investment in Gold ETF was made by families with sole earning member. Families with an average of three earning members exhibit a collective mind with strong motive of making diverse investments which provide them a safe zone and better profit to their family. Also, of the total sample Gold ETF Investors covered in the survey, 2% have monthly income up to ₹.20000, 15.9%, ₹.20001 to ₹.40000, 31.6%, ₹.40001 to ₹.60000 and 50.4%, above ₹.60000. Those who belong to the higher income group are expected to have higher level of investment in Gold ETF.

Among the 395 sample Gold ETF respondents, 8.6% had less than five years of experience, 38%, 6 to10 years of experience, 42%, 11 to 15 years and 11.4%, 16 to 20 years. Respondents with more than 15 years of experience in this field belonged to the above 50 years age-group. Among

the respondents of varying experiential status, majority of the investors (42%) who made Gold ETF Investments had 11-15 years of experience in making commodity derivative investments, followed by those with 6-10 years of experience (38%).

Table 4.1 also shows that all of the investors make Gold ETF Investments from own and/or borrowed sources of finance displaying the phenomenon of least cost of financing with ensured higher earnings/profit.

4.2 ETF Investment Level across Demographic Variables

4.2.1 ETF Investment Level across Age of the respondents

Table 4.2 presents the processing summary of ETF Investment level of Gold ETF Investors across age of the respondents

Table 4.2: Age * ETF Investment Level

			ETF Investment Level			Total
			Low	Medium	High	
Age	20-29	Count	14	23	11	48
		% within Age	29.2%	47.9%	22.9%	100.0%
		% of Total	3.5%	5.8%	2.8%	12.2%
	30-39	Count	32	78	49	159
		% within Age	20.1%	49.1%	30.8%	100.0%
		% of Total	8.1%	19.7%	12.4%	40.3%
	40-60	Count	15	115	29	159
		% within Age	9.4%	72.3%	18.2%	100.0%
		% of Total	3.8%	29.1%	7.3%	40.3%
	ABOVE 60	Count	7	18	4	29
		% within Age	24.1%	62.1%	13.8%	100.0%
		% of Total	1.8%	4.6%	1.0%	7.3%
Total		Count	68	234	93	395
		% within Age	17.2%	59.2%	23.5%	100.0%
		% of Total	17.2%	59.2%	23.5%	100.0%

The above said explanations were tested by using the following hypothesis with the help of a Chi square test.

Hypothesis:

H0: There is no association between age and ETF investment level

H1: There is association between age and ETF investment level

The test statistic and the results are exhibited in Table 4.3.

Table 4.3 presents the values of Chi-Square Tests and Figure 4.1 shows the pictorial representation of Age across Gold ETF investors in Kerala

Table 4.3: Chi-Square Tests of ETF investment level across age of investors

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	26.275[a]	6	.000
Likelihood Ratio	26.549	6	.000
Linear-by-Linear Association	.001	1	.976
N of Valid Cases	395		

a. 1 cell (8.3%) have expected check under 5. The base expected tally is 4.99.

The results of Table 4.3 shows that the test was found to be significant at 95% level (Chi square value = 26.275, p =0.000 < 0.05). Hence it proves that there is association between age and investment level. Accordingly it is found that investors within the age group 30 to 39 tend to make Lower level and Higher Level Gold ETF investments than

other age groups. But investors within the age group of 40 to 60 tend to make more medium Gold ETF investments than the relatively smaller age-groups. But the fact that 1 cell (8.3%) have expected check under 5 with the base expected tally is 4.99 is considered as a limitation of the study.

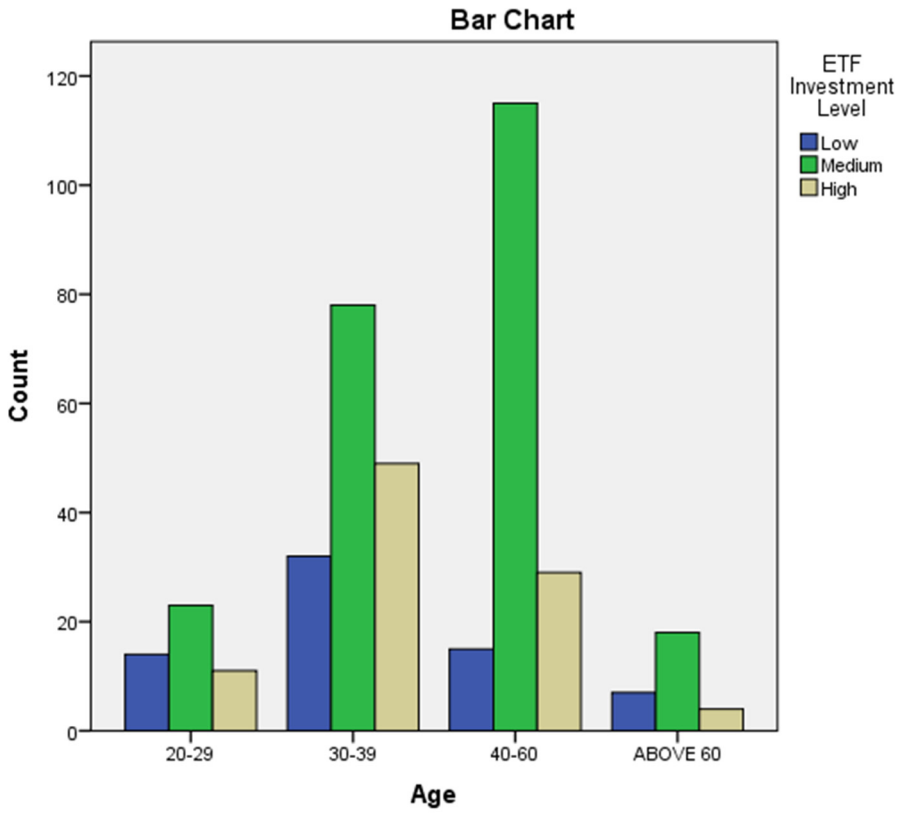

Fig. 4.1: Age * ETF Investment Level

4.2.2 ETF Investment Level across Gender of the respondents

Table 4.4 presents the processing summary of ETF Investment level of Gold ETF Investors across gender of the respondents

Table 4.4: Gender * ETF Investment Level

			ETF Investment Level			Total
			Low	Medium	High	
Sex	"MALE"	Count	44	158	64	266
		% within Sex	16.5%	59.4%	24.1%	100.0%
		% of Total	11.1%	40.0%	16.2%	67.3%
	"FEMALE"	Count	24	76	29	129
		% within Sex	18.6%	58.9%	22.5%	100.0%
		% of Total	6.1%	19.2%	7.3%	32.7%
Total		Count	68	234	93	395
		% within Sex	17.2%	59.2%	23.5%	100.0%
		% of Total	17.2%	59.2%	23.5%	100.0%

The above said explanations were tested by using the following hypothesis with the help of a Chi square test.

Hypothesis:

H0: There is no association between gender and ETF investment level

H1: There is association between gender and ETF investment level

The test statistic and the results are exhibited in Table 4.5

Table 4.5 represents the values of Chi-Square Tests and Figure 4.2 shows the pictorial representation of Gender across Gold ETF investors in Kerala

Table 4.5: Chi-Square Tests of ETF Investment Level across Gender of the respondents

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.310[a]	2	.856
Likelihood Ratio	.308	2	.857
Linear-by-Linear Association	.285	1	.593
N of Valid Cases	395		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 22.21.

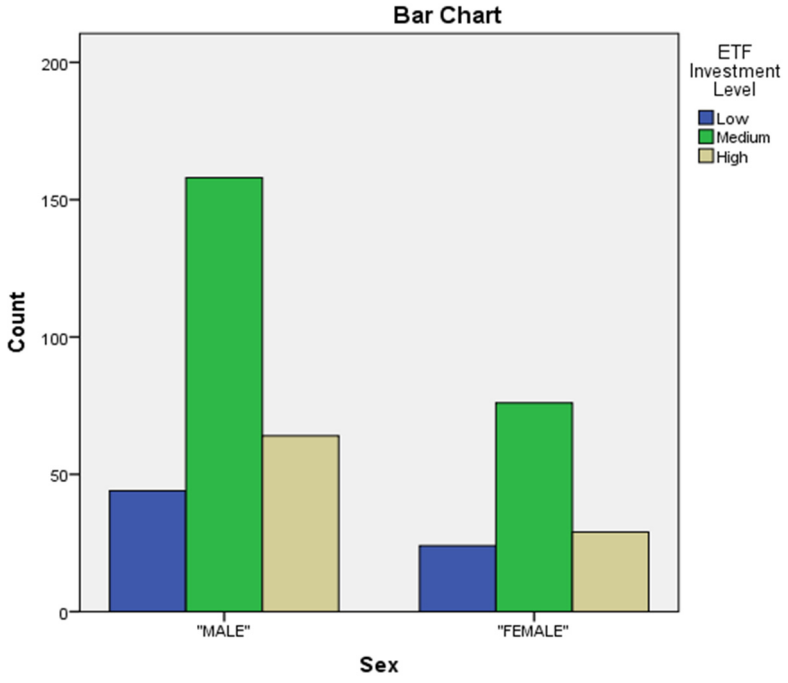

Fig. 4.2: Gender * ETF Investment Level

The results of Table 4.5 shows that the test was found not to be significant at 95% level (Chi square value = 0.310 , p = 0.856 > 0.05). Hence it proves that there is no association between gender and level of investment (supported by the values indicated in Table 4.4).

4.2.3 ETF Investment Level across Marital Status of the respondents

Table 4.6 presents the processing summary of ETF Investment level of Gold ETF Investors across marital status of the respondents

Table 4.6: Marital Status * ETF Investment Level

			ETF Investment Level			Total
			Low	Medium	High	
Marital Status	"MARRIED"	Count	51	136	67	254
		% within Marital Status	20.1%	53.5%	26.4%	100.0%
		% of Total	12.9%	34.4%	17.0%	64.3%
	"UNMARRIED"	Count	17	98	26	141
		% within Marital Status	12.1%	69.5%	18.4%	100.0%
		% of Total	4.3%	24.8%	6.6%	35.7%
Total		Count	68	234	93	395
		% within Marital Status	17.2%	59.2%	23.5%	100.0%
		% of Total	17.2%	59.2%	23.5%	100.0%

The above said explanations were tested by using the following hypothesis with the help of a Chi square test.

Hypothesis:

H0: There is no association between marital status and ETF investment level

H1: There is association between marital status and ETF investment level

The test statistic and the results are exhibited in Table 4.7.

Table 4.7 represents the values of Chi-Square Tests and Figure 4.3 shows the pictorial representation of Marital Status across Gold ETF investors in Kerala

Table 4.7: Chi-Square Tests of ETF Investment Level across marital status of the respondents

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.715[a]	2	.008
Likelihood Ratio	9.918	2	.007
Linear-by-Linear Association	.000	1	.990
N of Valid Cases	395		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 24.27.

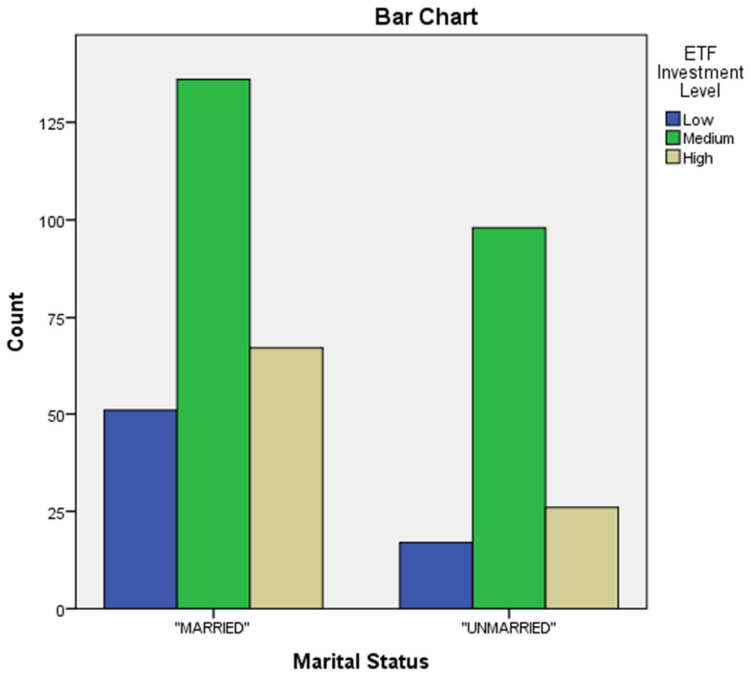

Fig. 4.3: Marital status * ETF Investment Level

The results of Table 4.7 shows that the test was found not to be significant at 95% level (Chi square value = 9.715, p = 0.008 > 0.05). Hence it proves that there is no association between marital status and level of investment (supported by the values indicated in Table 4.6).

4.2.4 ETF Investment Level across Educational background of the respondents

Table 4.8 presents the processing summary of ETF Investment level of Gold ETF Investors across educational background of the respondents

Table 4.8: Educational Background * ETF Investment Level

			ETF Investment Level			Total
			Low	Medium	High	
Educational Background	SCHOOL EDUCATION	Count	12	24	13	49
		% within Educational Background	24.5%	49.0%	26.5%	100.0%
		% of Total	3.0%	6.1%	3.3%	12.4%
	COLLEGE EDUCATION	Count	23	74	32	129
		% within Educational Background	17.8%	57.4%	24.8%	100.0%
		% of Total	5.8%	18.7%	8.1%	32.7%
	PROFESSIONAL	Count	31	117	44	192
		% within Educational Background	16.1%	60.9%	22.9%	100.0%
		% of Total	7.8%	29.6%	11.1%	48.6%
	OTHERS	Count	2	19	4	25
		% within Educational Background	8.0%	76.0%	16.0%	100.0%
		% of Total	0.5%	4.8%	1.0%	6.3%
Total		Count	68	234	93	395
		% within Educational Background	17.2%	59.2%	23.5%	100.0%
		% of Total	17.2%	59.2%	23.5%	100.0%

The above said explanations were tested by using the following hypothesis with the help of a Chi square test.

Hypothesis:

H0: There is no association between educational background and ETF investment level

H1: There is association between educational background and ETF investment level

The test statistic and the results are exhibited in Table 4.9.

Table 4.9 represents the values of Chi-Square Tests and Figure 4.4 shows the pictorial representation of Educational Background across Gold ETF investors in Kerala

Table 4.9: Chi-Square Tests of ETF Investment Level across educational background of the respondents

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.031[a]	6	.420
Likelihood Ratio	6.192	6	.402
Linear-by-Linear Association	.144	1	.705
N of Valid Cases	395		

a. 1 cells (8.3%) have expected check less than 5. The base expected tally is 4.30.

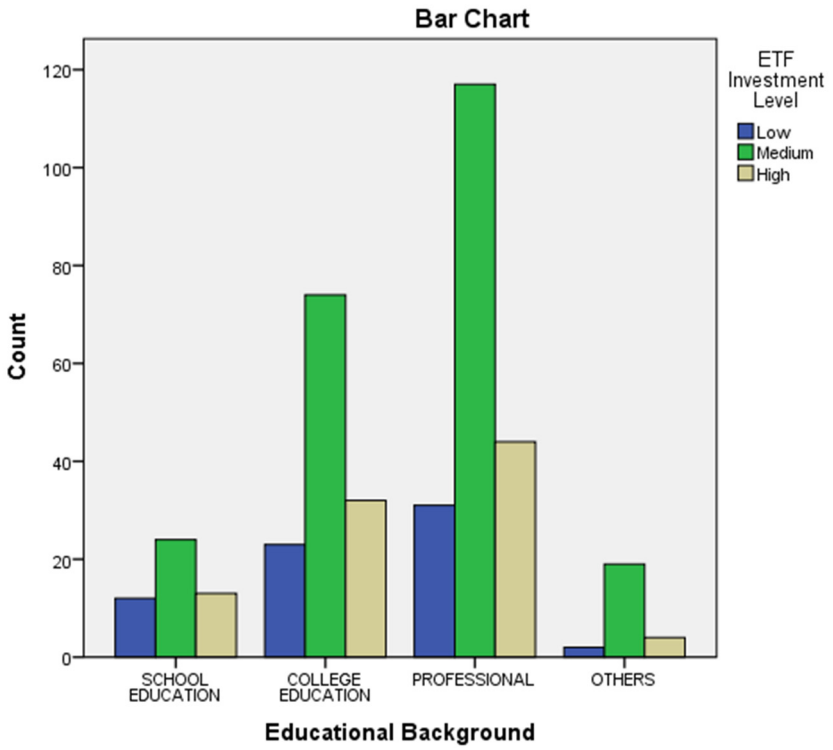

Fig. 4.4: Educational background* ETF Investment Level

The results of Table 4.9 shows that the test was found not to be significant at 95% level (Chi square value = 6.031, p = 0.420 > .05). Hence it proves that there is no association between educational background and level of investment (supported by the values indicated in Table 4.8). But the fact that 1 cell (8.3%) have expected check under 5 with the base expected tally is 4.30 is considered as a limitation of the study.

4.2.5 ETF Investment Level across Occupation/ Profession of the respondents

Table 4.10 presents the processing summary of ETF Investment level of Gold ETF Investors across occupation/profession of the respondents

Table 4.10: Occupation/ Profession * ETF Investment Level

			ETF Investment Level			Total
			Low	Medium	High	
Occupation/ Profession	SALARIED	Count	0	1	0	1
		% within Occupation/ Profession	0.0%	100.0%	0.0%	100.0%
		% of Total	0.0%	0.3%	0.0%	0.3%
	PROFESSIONAL	Count	25	106	44	175
		% within Occupation/ Profession	14.3%	60.6%	25.1%	100.0%
		% of Total	6.3%	26.8%	11.1%	44.3%
	BUSINESS	Count	39	110	47	196
		% within Occupation/ Profession	19.9%	56.1%	24.0%	100.0%
		% of Total	9.9%	27.8%	11.9%	49.6%
	OTHERS	Count	4	17	2	23
		% within Occupation/ Profession	17.4%	73.9%	8.7%	100.0%
		% of Total	1.0%	4.3%	0.5%	5.8%
Total		Count	68	234	93	395
		% within Occupation/ Profession	17.2%	59.2%	23.5%	100.0%
		% of Total	17.2%	59.2%	23.5%	100.0%

The above said explanations were tested by using the following hypothesis with the help of a Chi square test.

Hypothesis:

H0: There is no association between occupation/profession and ETF investment level

H1: There is association between occupation/profession and ETF investment level

The test statistic and the results are exhibited in Table 4.11.

Table 4.11 represents the values of Chi-Square Tests and Figure 4.5 shows the pictorial representation of Occupation/Profession across Gold ETF investors in Kerala

Table 4.11: Chi-Square Tests ETF Investment Level across occupation/profession of the respondents

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.950[a]	6	.429
Likelihood Ratio	6.955	6	.325
Linear-by-Linear Association	2.205	1	.138
N of Valid Cases	395		

a. 4 cells (33.3%) have expected check less than 5. The base expected tally is .17.

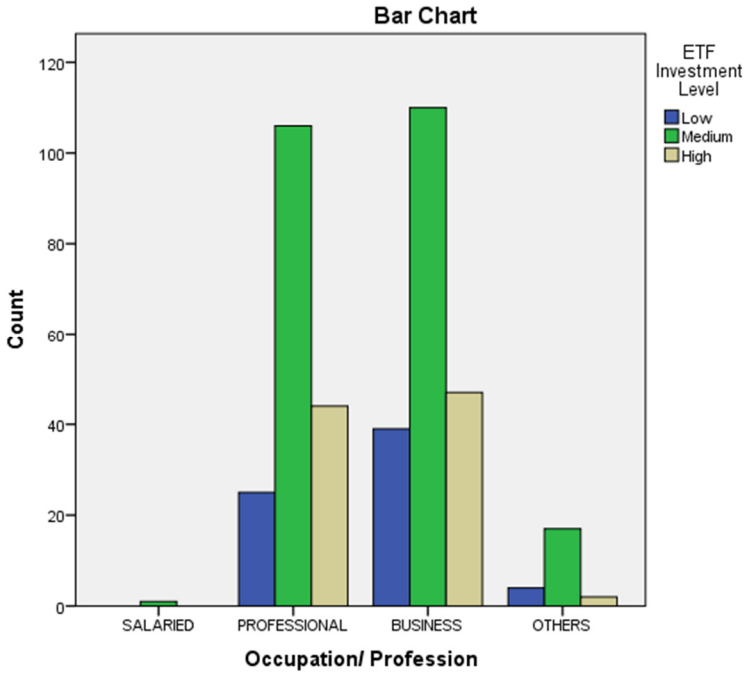

Fig. 4.5: Occupation/ Profession * ETF Investment Level

The results of Table 4.11 shows that the test was found not to be significant at 95% level (Chi square value = 5.950, p =0.429 > .05). Hence it proves that there is no association between occupation/ profession and level of investment (supported by the values indicated in Table 4.10). But the fact that 4 cells (33.3%) have expected check less than 5 with the base expected tally being 0.17 is considered as a limitation of the study.

4.2.6 ETF Investment Level across Monthly income of the respondents

Table 4.12 presents the processing summary of ETF Investment level of Gold ETF Investors across monthly income of the respondents

Table 4.12: Monthly Income * ETF Investment Level

			ETF Investment Level			Total
			Low	Medium	High	
Monthly Income	Upto ₹ 20000	Count	2	3	3	8
		% within Monthly Income	25.0%	37.5%	37.5%	100.0%
		% of Total	0.5%	0.8%	0.8%	2.0%
	₹ 20001-₹ 40000	Count	8	38	17	63
		% within Monthly Income	12.7%	60.3%	27.0%	100.0%
		% of Total	2.0%	9.6%	4.3%	15.9%
	₹ 40001-₹ 60000	Count	24	72	29	125
		% within Monthly Income	19.2%	57.6%	23.2%	100.0%
		% of Total	6.1%	18.2%	7.3%	31.6%
	Above ₹ 60000	Count	34	121	44	199
		% within Monthly Income	17.1%	60.8%	22.1%	100.0%
		% of Total	8.6%	30.6%	11.1%	50.4%
Total		Count	68	234	93	395
		% within Monthly Income	17.2%	59.2%	23.5%	100.0%
		% of Total	17.2%	59.2%	23.5%	100.0%

The above said explanations were tested by using the following hypothesis with the help of a Chi square test.

Hypothesis:

H0: There is no association between monthly income and ETF investment level

H1: There is association between monthly income and ETF investment level

The test statistic and the results are exhibited in Table 4.13.

Table 4.13 represents the values of Chi-Square Tests and Figure 4.6 shows the pictorial representation of Monthly Income across Gold ETF investors in Kerala

Table 4.13: Chi-Square Tests of ETF Investment Level across monthly income of the respondents

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.264[a]	6	.775
Likelihood Ratio	3.278	6	.773
Linear-by-Linear Association	.709	1	.400
N of Valid Cases	395		

a. 3 cells (25.0%) have expected check less than 5. The base expected tally is 1.38.

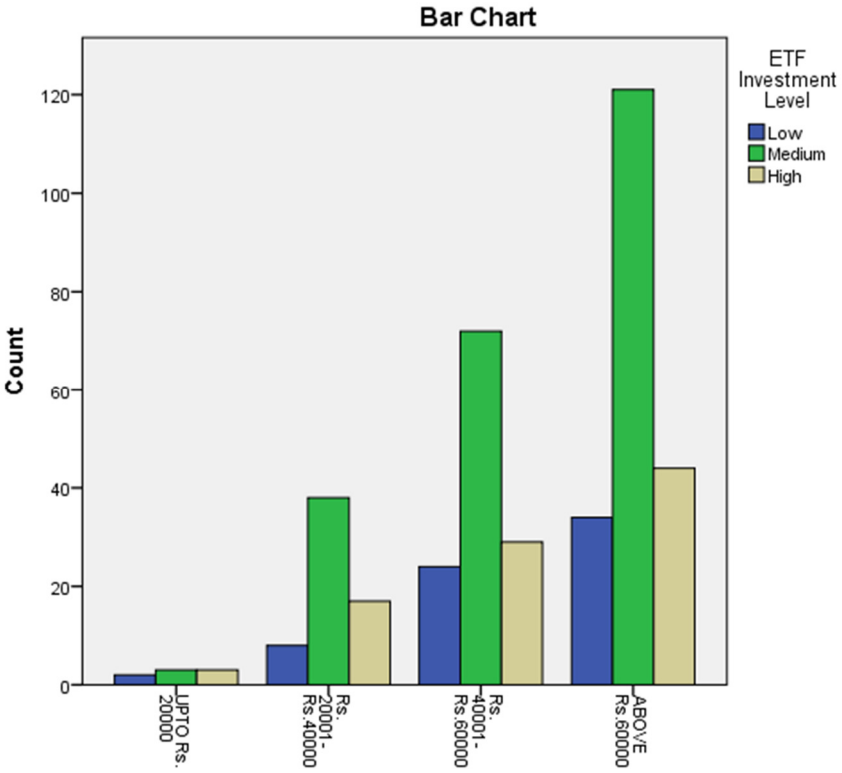

Fig. 4.6: Monthly income * ETF Investment Level

The results of Table 4.13 shows that the test was found not to be significant at 95% level (Chi square value = 3.264, p=0.775 > 0.05). Hence it proves that there is no association between monthly income and level of investment (supported by the values indicated in Table 4.12). But the fact that 3 cells (25.0%) have expected check less than 5 with the base expected tally being 1.38 is considered as a limitation of the study.

4.2.7 ETF Investment Level across Family size of the respondents

Table 4.14 presents the processing summary of ETF Investment level of Gold ETF Investors across family size of the respondents

Table 4.14: Family Size * ETF Investment Level

			ETF Investment Level			Total
			Low	Medium	High	
Family Size	Less Than Four	Count	2	5	2	9
		% within Family Size	22.2%	55.6%	22.2%	100.0%
		% of Total	0.5%	1.3%	0.5%	2.3%
	4-6	Count	17	49	13	79
		% within Family Size	21.5%	62.0%	16.5%	100.0%
		% of Total	4.3%	12.4%	3.3%	20.0%
	6-8	Count	45	164	76	285
		% within Family Size	15.8%	57.5%	26.7%	100.0%
		% of Total	11.4%	41.5%	19.2%	72.2%
	Above 8	Count	4	16	2	22
		% within Family Size	18.2%	72.7%	9.1%	100.0%
		% of Total	1.0%	4.1%	0.5%	5.6%
Total		Count	68	234	93	395
		% within Family Size	17.2%	59.2%	23.5%	100.0%
		% of Total	17.2%	59.2%	23.5%	100.0%

The above said explanations were tested by using the following hypothesis with the help of a Chi square test.

Hypothesis:

H0: There is no association between family size and ETF investment level

H1: There is association between family size and ETF investment level

The test statistic and the results are exhibited in Table 4.15.

Table 4.15 represents the values of Chi-Square Tests and Figure 4.7 shows the pictorial representation of Family Size across Gold ETF investors in Kerala

Table 4.15: Chi-Square Tests of ETF Investment Level across family size of the respondents

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7.092[a]	6	.312
Likelihood Ratio	7.734	6	.258
Linear-by-Linear Association	.916	1	.338
N of Valid Cases	395		

a. 3 cells (25.0%) have expected check less than 5. The base expected tally is 1.55.

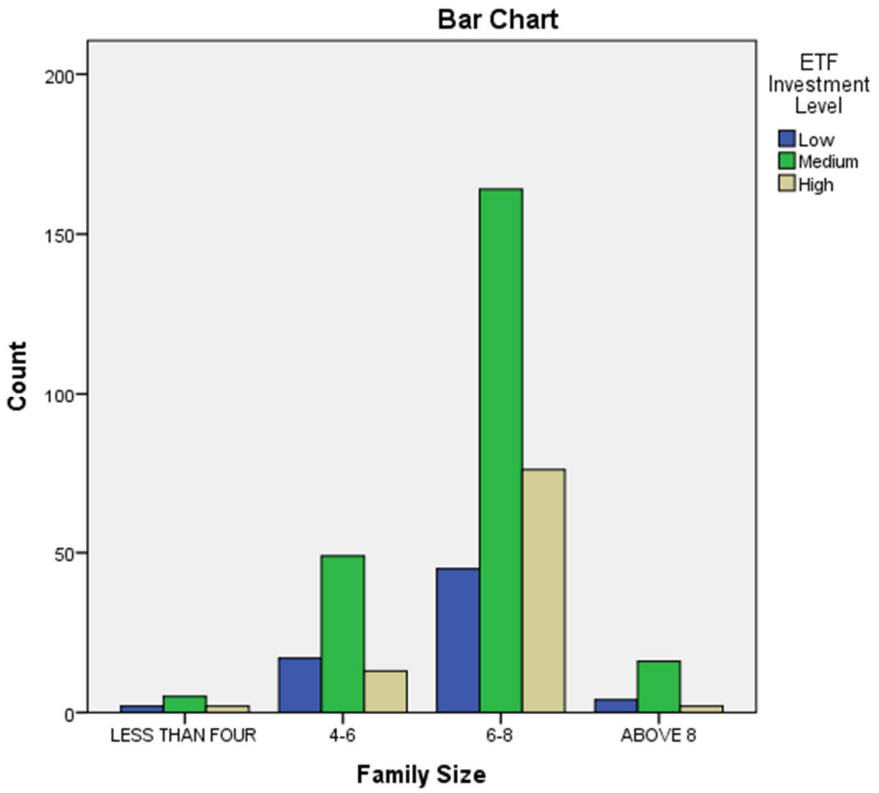

Fig. 4.7: Family Size *ETF Investment Level

The results of Table 4.15 shows that the test was found not to be significant at 95% level (Chi square value = 7.092, p =0.312 > 0.05). Hence it proves that there is no association between family size and level of investment (supported by the values indicated in Table 4.14). But the fact that 3 cells (25.0%) have expected check less than 5 with the base expected tally being 1.55 is considered as a limitation of the study.

4.3 Deductive Conclusion

Among the 395 samples, 67.3% were males while the remaining 32.7% were females, establishing the fact that females are also equally interested in making Gold ETF Investments and diversifying their portfolio. Both married and unmarried individual investors were considered to ensure that those with dependents and responsibility are prompted more to make Gold ETF Investments. Majority of the investors in the sample pool owned a house property and it was safe to predict that investors with their own house property invested more in Gold ETF rather than those staying in rented/leased property. Majority of the investors fall under the age bar (30-60) and are mature enough to make rational investment decisions. Since ETF trading requires some amount of ETF trading knowledge and information, it was expected that educated samples would make higher proportion of Gold ETF Investments. Investors under the occupation category including salaried class/business/ professional/ others were considered while structuring the sample pool in order to help categorize them as risk takers and non-risk takers. Data regarding family size, monthly income and number of earning members were gathered in order to gather a clear picture regarding its influence on quantum of investment. All of the investors had at least 2 years of

experience in the Gold ETF trading market. All of the investors make Gold ETF Investments from own as well as borrowed sources of finance displaying the phenomenon of least cost of financing with ensured higher earnings/profit.

Investors within the age group 30 to 39 tend to make Lower level and Higher Level Gold ETF investments than other age groups. But investors within the age group of 40 to 60 tend to make more medium Gold ETF investments than the relatively smaller age-groups. Even though male and female investors, with varying level of education, occupation, marital status, income and family size were found to make Gold ETF investments the factors like gender, marital status, educational background, occupation/ profession, monthly income, and family size do not decisively contribute towards determining the quantum of investment as there seems to be have no association between these criteria and level of ETF investments.

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Chapter 5

GOLD ETF INVESTMENT DECISIONS AND UNDERLYING CRITERIAS- AN ASSESSMENT OF INFLUENTIAL FACTORS

Contents

The previous chapter uncovered the profile of the respondents selected for the study. These investors were specifically selected on grounds of their preference in making investments towards Gold ETF's. But limited studies are available to give a proper explanation as to understand the influential factors behind such an investment decision. Hence in this chapter an attempt is made to explore the behavioural finance factors followed by social, economic and technical factors that influence Gold Exchange Traded Funds Investments in Kerala. This is done using Exploratory Factor Analysis. Reliability/Validity/Consistency checks were conducted as a prelude to Factor Analysis for ensuring the sufficiency and strength of data.

5.1 Exploring the Behavioural Finance Factors Influencing Gold ETF Investment Decisions

Here, behavioural finance factors are explored to help provide an explanation to Gold ETF investment decisions.

5.1.1 KMO and Bartlett's Test

Table 5.1 presents KMO and Bartlett's Test of Behavioural Finance factors.

Table 5.1: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.580
Bartlett's Test of Sphericity	Approx. Chi-Square	6450.920
	df	153
	Sig.	.000

Source: Survey data

Table 5.1 indicates that while measuring Kaiser-Meyer – Olkin Measure of Sampling Adequacy and Bartlett's Test of Sphericity a value of 0.580 and an identity matrix was obtained respectively. Taken together, these tests give a base standard which ought to be passed before a factor analysis ought to be led.

5.1.2 Factor Analysis and Reduction of Data

Factor Analysis is a method of data reduction by extraction and rotation which allow the factors to be correlated with one another. Here, the extraction method used is Principal Component Analysis and Rotation used is Varimax with Kaiser Normalization.

5.1.2.1 Communalities of each variable's variance

Table 5.2 presents communalities of each variable's variance of Behavioural Finance factors

Table 5.2: Communalities of each variable's variance

	Initial	Extraction
Confidence	1.000	0.770
Past Investment Successes	1.000	0.859
Complete Knowledge	1.000	0.819
Satisfaction	1.000	0.919
Technical Analysis	1.000	0.705
Indicator	1.000	0.878
Recommendations	1.000	0.889
Opinion Shifting	1.000	0.848
Company news	1.000	0.891
Opinion from friends & colleagues	1.000	0.857
Borrow money during besrish market	1.000	0.754
Book profits	1.000	0.897
Trend reversal expectancy	1.000	0.672
Lottery tickets purchase	1.000	0.799
Invest only on diversified portfolio	1.000	0.843
Investment based on time horizon	1.000	0.795
Retirement in savings	1.000	0.745
Specific Sectors	1.000	0.706

Extraction Method: Principal Component Analysis.
Source: Survey data

From Table 5.2 it is evident that all the variables are with high values and are well represented in the common factor space.

5.1.2.2 Total variance extracted under Principal Component Analysis

Table 5.3 presents total variance of Behavioural Finance factors extracted under Principal Component Analysis

Table 5.3: Total variance extracted under Principal Component Analysis

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.922	32.898	32.898	5.922	32.898	32.898	3.142	17.455	17.455
2	2.719	15.107	48.005	2.719	15.107	48.005	2.991	16.619	34.074
3	1.747	9.705	57.710	1.747	9.705	57.710	2.831	15.726	49.801
4	1.633	9.074	66.783	1.633	9.074	66.783	2.317	12.874	62.675
5	1.441	8.007	74.790	1.441	8.007	74.790	1.928	10.711	73.386
6	1.182	6.568	81.358	1.182	6.568	81.358	1.435	7.972	81.358
7	.847	4.706	86.064						
8	.637	3.542	89.606						
9	.491	2.727	92.333						
10	.390	2.165	94.498						
11	.335	1.863	96.361						
12	.188	1.043	97.404						
13	.127	.704	98.108						
14	.104	.575	98.683						
15	.092	.511	99.194						
16	.067	.373	99.567						
17	.050	.276	99.842						
18	.028	.158	100.000						

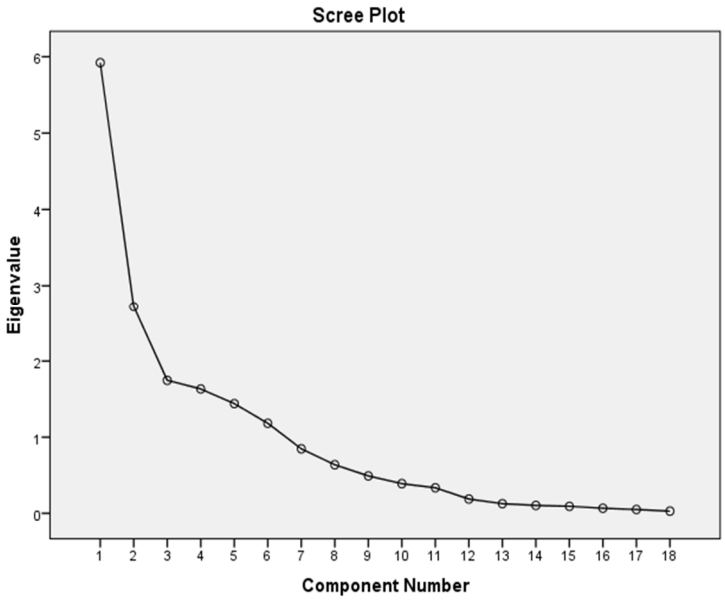
Extraction Method: Principal Component Analysis.
Source: Survey data

Table 5.3 shows that the initial number of components is the same as the number of variables used in the Factor Analysis. But not all 18 components will be retained and only first six components are retained. Since Factor Analysis were conducted on the correlation matrix, standardized

variables are obtained giving each variable, a variance equal to one, and total variance equal to the eighteen variables used in the analysis. First component has most variance and hence highest Eigen value. In calculating the cumulative percentage of variance accounted for by the current and preceding components, the sixth row shows a value of 81.358. This means that the first three components together account for 81.358% of the total variance. During extracting sums of squared loadings, six rows for six retained components are obtained. Varimax rotation, used to estimate variance distribution is represented in the last column (Table 5.3).

5.1.2.3 Scree Plot of Behavioural Finance Factors

Fig. 5.1 presents Scree Plot of Behavioural Finance factors which graphs the Eigen value against the Component Number.



Source: Survey data

Fig. 5.1: Scree Plot of Behavioural Finance Factors

The Scree Plot depicted in Fig 5.1, graphs the Eigen value against the Component Number. These values are seen in the first five columns of Table 5.3. From sixth component on, the line is almost flat, meaning that each successive component is accounting for smaller and smaller amounts of total variance.

5.1.2.4 Rotated Component Matrix

Table 5.4 presents Rotated Component Matrix (displaying the rotated components extracted) of Behavioural Finance factors

Table 5.4: Rotated Component Matrix

	Component					
	1	2	3	4	5	6
Confidence	0.848					
Past Investment Successes	0.795					
Invest only on diversified portfolio	0.716					
Complete Knowledge	0.699					
Lottery tickets purchase	0.671					
Company news		0.906				
Opinion from friends & colleagues		0.893				
Opinion Shifting		0.688				
Book profits			0.898			
Trend reversal expectancy			0.684			
Borrow money during bearish market			0.659			
Retirement in savings			0.570			
Recommendations				0.896		
Indicator				0.811		
Satisfaction					0.898	
Technical Analysis					0.539	
Specific Sectors						0.765
Investment based on time horizon						0.685

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.[a]
a. Rotation converged in 12 iterations.

Source: Survey data

Table 5.4 shows the rotated components that have been extracted. Evidently, six components were extracted and named according to the items highly loaded into each component. Correlations less than 5.0 or below (which probably are not meaningful anyway) are not noted.

5.1.3 Naming of the variable

All the items are labeled and named in accordance to the concepts explained by Tversky, A., & Kahneman, D. (1973, 1974, 1981) and Thaler (1980)

Table 5.5 shows the Descriptive Statistics of the behavioural finance factors extracted

Table 5.5: Statistics of Behavioural Finance factors

		Over Confidence Bias	Herd Behaviour	Mental Accounting	Representative bias	Regret aversion	Hindsight bias
N	Valid	395	395	395	395	395	395
	Missing	0	0	0	0	0	0
Mean		20.5848	11.8304	15.6608	7.8987	7.6532	7.6405
Std. Deviation		2.65146	1.88477	2.60151	1.31947	1.48895	1.52055
Range		7.00	5.00	8.00	4.00	4.00	4.00
Minimum		18.00	10.00	12.00	6.00	6.00	6.00
Maximum		25.00	15.00	20.00	10.00	10.00	10.00

Source: Survey data

Table 5.5 depicts the mean values and measures of dispersion of the factors overconfidence bias, herd behaviour, mental accounting, representative bias, regret aversion and hindsight bias extracted under behavioural finance factors explored for the study.

Byrne (2008) states that Overconfidence bias occurs when investors overestimate their ability and the accuracy of the information they have. Accordingly, items like Confidence, Past Investment Success, and Invest only on diversified portfolio, Complete Knowledge and Lottery ticket Purchase all implies to the fact that the investor is highly sure of his capability in assessing the market situation and is well confident in making investment decisions. He assumes the data and information gathered from his reliable sources are highly accurate and can be applied to his portfolio basket. Though Lottery ticket purchase could be pertained to a situation of Gambler's Fallacy, the investor's confidence in making a purchase could be affronted to Over Confidence Bias also. Therefore, this factor could be called as "Over Confidence Bias".

Sushil Bikhchandani(2000) states that "Instinctively, an individual can be said to herd in the event that she would have made a venture without knowing other financial specialists' choices, yet does not make that speculation when she finds that others have chosen not to do as such. On the other hand, he herds when learning that others are contributing changes her choice from not contributing to making the speculation. This clearly implies the fact that Opinion from friends and colleagues, Opinion Shifting and Company News all prompts an investor to shift his decision from an already perceived one to a newer one similar to what others are deciding. Hence the above three items conform to the factor "Herd Behaviour".

Byrne (2008) states individuals allocate wealth to separate mental compartments and ignore fungibility and correlation effects while faced

with Mental Accounting Bias. In this light, an investors tendency to wait in realizing stock profits for future higher returns (Book profits), withholding the ETF's with the expectation that the current downward trend would pave way for future upward trend(Trend Reversal Expectancy), borrowing money during bearish market season with the decision to recoup benefit during bullish market environment (Borrow Money during bearish market) and making retirement savings with the hope of probably higher return during postretirement period (Retirement in savings) all points to a common factor namely "Mental Accounting"

The items Recommendation and Indicator points to the stereotypic view of an investor where he/she represents an entire performance of a Company/firm in which there is a potential investment made on grounds of superficial characteristics rather than underlying possibilities. Hence these items could be loaded more into the factor "Representative Bias"

Regret aversion is the phenomenon used to describe a preference of people to hold on to what they have rather than exchange for a better alternative, making them either risk averse or motivating them to take risks during investment decision making process. "Satisfaction" and "Technical Analysis" gives them that chord to hold onto while establishing this psychological mindset; hence these two items cannot be named none other than "Regret Aversion Bias"

Having the ability to predict future based on historical data is something what every investors desire. But the prominence of expecting the obvious from past events resulting in simplification of cause and effect will make an investor over confident of his decisions which

ultimately can make or break his portfolio, the phenomenon being called as Hindsight Bias. Screening on "Specific Sectors" and deciding to make "Investments based on time horizon" speculating the bullish and bearish condition of stock market can be atoned to this bias. Hence these two components could be named as contributing to "Hindsight Bias"

5.2 Exploring the Social Factors Influencing Gold ETF Investment Decisions

Here, social factors are explored to help provide an explanation to Gold ETF investment decisions.

5.2.1 KMO and Bartlett's Test

Table 5.6: presents KMO and Bartlett's Test of Social factors

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.591
Bartlett's Test of Sphericity	Approx. Chi-Square	7546.283
	df	190
	Sig.	0.000

Source: Survey data

Table 5.6 shows that while measuring Kaiser-Meyer – Olkin Measure of Sampling Adequacy and Bartlett's Test of Sphericity a value of 0.591 and an identity matrix was obtained respectively. Taken together, these tests give a base standard which ought to be passed before a factor analysis ought to be led.

5.2.2 Factor Analysis and Reduction of Data

Here, the extraction method used is Principal Component Analysis and Rotation used is Varimax with Kaiser Normalization.

5.2.2.1 Communalities of each variable's variance

Table 5.7 presents Communalities of each variable's variance of Social factors.

Table 5.7: Communalities of each variable's variance

	Initial	Extraction
Family Needs	1.000	0.793
Emergency Needs	1.000	0.799
Safe Life	1.000	0.674
Secure Life	1.000	0.844
Capital Growth	1.000	0.830
Risk free	1.000	0.803
Protection from Inflation	1.000	0.841
Tax benefits	1.000	0.770
Risk Coverage	1.000	0.709
Leverage	1.000	0.883
Trade value	1.000	0.826
Retirement Savings	1.000	0.780
Social Obligations	1.000	0.857
Festival	1.000	0.771
Marriage of Children	1.000	0.687
Sense of Pride/Prestige/Status Symbol	1.000	0.650
Unaware of Mutual Fund	1.000	0.733
Unaware of Gold ETF	1.000	0.809
Gold Price	1.000	0.532
Increase in income level	1.000	0.488
Extraction Method: Principal Component Analysis.		

Source: Survey data

Table 5.7 shows that all the variables are with high values and are well represented in the common factor space.

5.2.2.2 Total variance extracted under Principal Component Analysis

Table 5.8 presents total variance of Social factors, extracted under Principal Component Analysis.

Table 5.8: Total variance extracted under Principal Component Analysis

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.899	34.497	34.497	6.899	34.497	34.497	3.836	19.182	19.182
2	2.964	14.821	49.318	2.964	14.821	49.318	3.532	17.661	36.843
3	2.223	11.116	60.433	2.223	11.116	60.433	2.790	13.949	50.792
4	1.824	9.119	69.552	1.824	9.119	69.552	2.683	13.415	64.207
5	1.168	5.841	75.393	1.168	5.841	75.393	2.237	11.186	75.393
6	1.096	5.482	80.876						
7	0.815	4.076	84.951						
8	0.644	3.218	88.169						
9	0.501	2.503	90.672						
10	0.433	2.166	92.838						
11	0.286	1.432	94.270						
12	0.263	1.313	95.582						
13	0.242	1.209	96.791						
14	0.162	0.810	97.601						
15	0.132	0.658	98.260						
16	0.116	0.578	98.837						
17	0.085	0.427	99.264						
18	0.079	0.393	99.657						
19	0.051	0.253	99.910						
20	0.018	0.090	100.000						

Extraction Method: Principal Component Analysis.

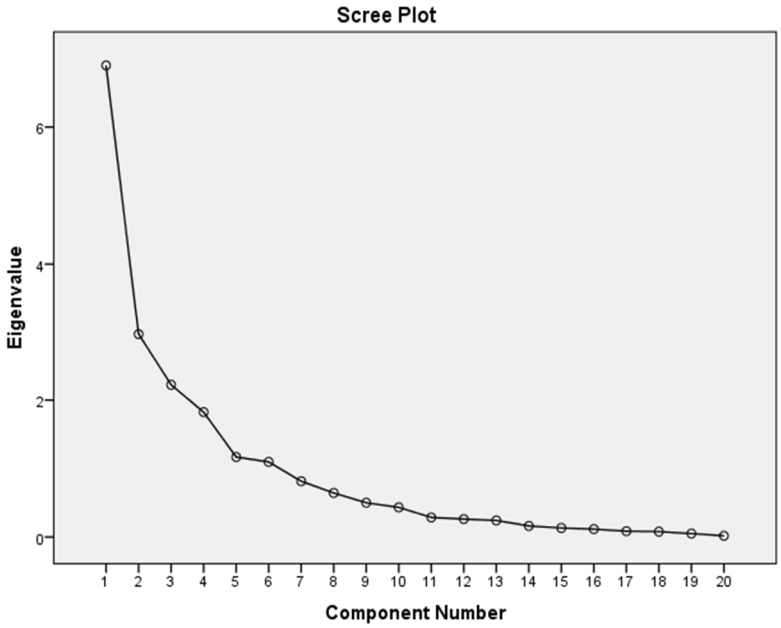
Source: Survey data

From Table 5.8 it can be proved that the initial number of components is the same as the number of variables used in the Factor Analysis. But not all 20 components will be retained and only first five components are retained. Since Factor Analysis were conducted on the correlation matrix, standardized variables are obtained giving each

variable, a variance equal to one, and total variance equal to the twenty variables used in the analysis. . First component has most variance and hence highest Eigen value. In calculating the cumulative percentage of variance accounted for by the current and preceding components, the fifth row shows a value of 75.393. This means that the first five components together account for 75.393% of the total variance. During extracting sums of squared loadings, five rows for five retained components are obtained. Varimax rotation, used to estimate variance distribution is represented in the last column. (Table 5.8).

5.2.2.3 Scree Plot of Social Factors

Fig. 5.2 presents Scree Plot of Social factors which graphs the Eigen value against the Component Number



Source: Survey data

Fig. 5.2: Scree Plot of Social Factors

The Scree Plot displayed under Fig 5.2, graphs the Eigen value against the Component Number. These values are seen in the first four columns of the table immediately above. From fifth component on, the line is almost flat, meaning the each successive component is accounting for smaller and smaller amounts of total variance.

5.2.2.4 Rotated Component Matrix

Table 5.9 presents Rotated Component Matrix (with five components extracted) of Social factors.

Table 5.9: Rotated Component Matrix

	Component				
	1	2	3	4	5
Emergency Needs	0.867				
Family Needs	0.865				
Marriage of Children	0.778				
Sense of Pride/Prestige/Status Symbol	0.692				
Secure Life		0.908			
Unaware of Gold ETF		0.846			
Unaware of Mutual Fund		0.690			
Safe Life		0.655			
Social Obligations			0.870		
Retirement Savings			0.821		
Festival			0.653		
Protection from Inflation				0.826	
Risk free				0.785	
Tax benfits				0.726	
Capital Growth					
Gold Price					
Leverage					0.764
Increase in income level					0.675
Trade avlue					0.623
Risk Coverage					
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.[a]					
a. Rotation converged in 7 iterations.					

Source: Survey data

Table 5.9 shows the rotated components that have been extracted. Evidently, five components were extracted and named according to the items highly loaded into each component. Correlations less than 5.0 or below (which probably are not meaningful anyway) are not noted.

5.2.3 Naming of the variable

All the items are labeled and named under the assumption that all the items contribute to maintaining the social status of an investor, thereby placing all the factors under the common head "Social Factors".

Table 5.10: Presents the Descriptive Statistics of the Social factors

		Motive for Investment	Awareness and basic needs	Provisions for Investment	Investment expectation	Economic growth
N	Valid	395	395	395	395	395
	Missing	0	0	0	0	0
Mean		16.3797	16.3975	11.9367	11.9772	11.9241
Std. Deviation		2.20235	2.18822	1.85750	1.83646	1.82323
Range		6.00	6.00	5.00	5.00	5.00
Minimum		14.00	14.00	10.00	10.00	10.00
Maximum		20.00	20.00	15.00	15.00	15.00

Source: Survey data

Table 5.10 depicts the mean values and measures of dispersion of the factors motive for investment, awareness and basic needs, provisions for investment, investment expectation and economic growth extracted under social factors explored for the study.

The items emergency needs, family needs, sense of pride/prestige/ status symbol and marriage of children all contribute to the prime influential attributes to an investor while deciding to make the investment and fixing the quantum of investment to be made in each investment avenue. Hence these items can be named as under "Motive for Investment".

Secure life and safe life are the two basic needs of an individual based on Maslow's need hierarchy theory. Unaware of gold ETF and unaware of mutual fund shows the awareness level of an investor regarding stock market and investment options on an average. Hence these two items could be labeled as "Awareness and Basic needs".

Social obligations, festival and retirement savings shows what an investor expects to meet from his expected returns in future. An investor might have to meet his social obligations, save up to shop for or conduct a festival, to meet his needs post retirement thus relying on one's own fund and not wanting to depend on others for his needs and wants. Therefore these items could highly load to be named as "Provisions of Investment".

Tax benefits, protection from inflation and risk free all implies to an investors decision in deciding over the quantum of investment. An investor always expects his money to be safely guarded and do not want to spend more money on ensuring its safety. To exploit tax benefits by making investments in Government (SEBI) approved tax saving schemes, to protect the corpus of investment from reaping the ill effects of inflation and ensuring a smooth pay back without having to suffer innumerable risks to this regard are all what an investor states as objective while

making an investment decision. Hence these items could be undoubtedly named as "Investment Expectation".

Leverage, increase in income level and trade value all implies to the effectiveness of an investment scheme to efficiently utilize the market and economic conditions of a society and arbitraging on stock market conditions. Hence these items could be labeled as "Economic growth"

5.3 Exploring the Economic Factors Influencing Gold ETF Investment Decisions

Here, economic factors are explored to help deliver a better understanding to its role in influencing Gold ETF investment decisions.

5.3.1 KMO and Bartlett's Test

Table 5.11 presents the values of KMO and Bartlett's Test of Economic factors

Table 5.11: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.653
Bartlett's Test of Sphericity	Approx. Chi-Square	4780.250
	df	105
	Sig.	0.000

Source: Survey data

Table 5.11 shows that while measuring Kaiser-Meyer – Olkin Measure of Sampling Adequacy and Bartlett's Test of Sphericity a value of 0.653 and an identity matrix was obtained respectively. Taken together, these tests give a base standard which ought to be passed before a factor analysis ought to be led.

5.3.2 Factor Analysis and Reduction of Data

Here, the extraction method used is Principal Component Analysis and Rotation used is Varimax with Kaiser Normalization.

5.3.2.1 Communalities of each variable's variance

Table 5.12 presents Communalities of each variable's variance of Economic factors.

Table 5.12: Communalities of each variable's variance

	Initial	Extraction
Cannot see gold	1.000	0.739
Possibility of decrease in value	1.000	0.839
Do not understand Stock market	1.000	0.559
Unaware of stock market conditions	1.000	0.763
Possibility of theft	1.000	0.414
Resale value/Price issue	1.000	0.707
Physical gold purchase value decreases	1.000	0.830
Physical Gold resale value decreases	1.000	0.678
Economic Stability	1.000	0.694
Increase in income level	1.000	0.701
Income level and Maturity date	1.000	0.113
Higher Returns(15-20%)	1.000	0.781
Beneficial Investment	1.000	0.669
Financial Security	1.000	0.547
Financial Market Analysis	1.000	0.293
Extraction Method: Principal Component Analysis.		

Source: Survey data

From Table 5.12 it is evident that, here all the variables are with high values and are well represented in the common factor space.

5.3.2.2 Total variance extracted under Principal Component Analysis

Table 5.13 presents total variance of Economic factors extracted under Principal Component Analysis

Table 5.13: Total variance extracted under Principal Component Analysis

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.895	39.301	39.301	5.895	39.301	39.301	4.258	28.390	28.390
2	1.995	13.302	52.603	1.995	13.302	52.603	2.777	18.514	46.904
3	1.436	9.573	62.176	1.436	9.573	62.176	2.291	15.273	62.176
4	1.176	7.838	70.014						
5	1.042	6.944	76.958						
6	.959	6.392	83.350						
7	.744	4.961	88.311						
8	.492	3.280	91.591						
9	.372	2.482	94.073						
10	.300	1.999	96.072						
11	.231	1.537	97.609						
12	.183	1.217	98.826						
13	.080	.532	99.359						
14	.074	.493	99.852						
15	.022	.148	100.000						

Extraction Method: Principal Component Analysis.

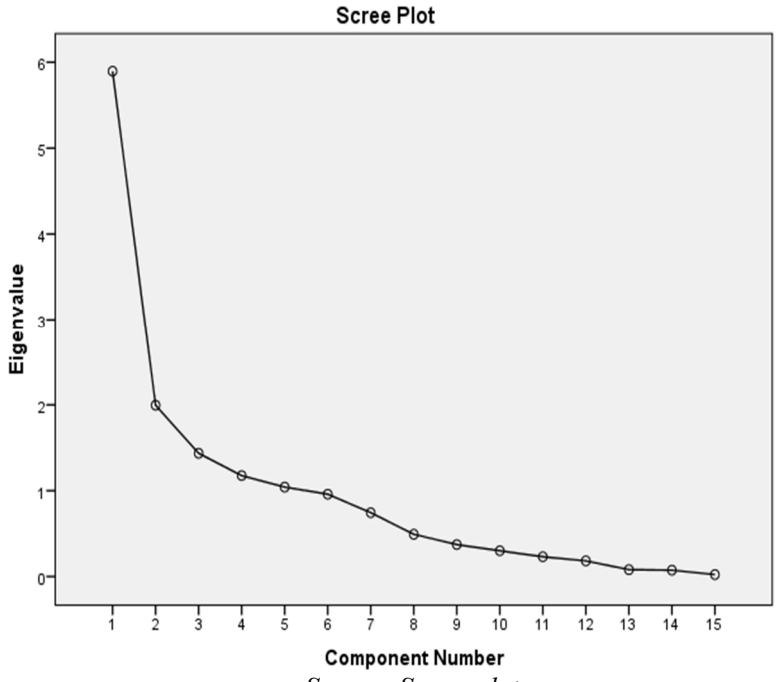
Source: Survey data

Table 5.13 shows that the initial number of components is the same as the number of variables used in the Factor Analysis. But not all 15 components will be retained and only first three components are retained. Since Factor Analysis were conducted on the correlation matrix, standardized variables are obtained giving each variable, a variance equal

to one, and total variance equal to the fifteen variables used in the analysis. First component has most variance and hence highest Eigen value. In calculating the cumulative percentage of variance accounted for by the current and preceding components, the third row shows a value of 62.176. This means that the first three components together account for 62.176% of the total variance. During extracting sums of squared loadings, three rows for three retained components are obtained. Varimax rotation, used to estimate variance distribution is represented in the last column (Table 5.13)

5.3.2.3 Scree Plot of Economic Factors

Fig. 5.3 presents Scree Plot of Economic factors which graphs the Eigen value against the Component Number



Source: Survey data

Fig. 5.3: Scree Plot of Economic Factors

The Scree Plot exhibited in Fig 5.3, graphs the Eigen value against the Component Number. These values are seen in the first two columns of the table immediately above. From third component on, the line is almost flat, meaning the each successive component is accounting for smaller and smaller amounts of total variance.

5.3.2.4 Rotated Component Matrix

Table 5.14 shows the rotated components of Economic factors that have been extracted

Table 5.14: Rotated Component Matrix

	Component		
	1	**2**	**3**
Economic Stability	.819		
Increase in income level	.815		
Physical gold purchase value decreases	.691		
Resale value/Price issue	.681		
Physical Gold resale value decreases	.668		
Cannot see gold	.664		
Possibility of theft	.615		
Financial Security			
Unaware of stock market conditions		.858	
Beneficial Investment		.670	
Do not understand Stock market		.638	
Income level and Maturity date			
Possibility of decrease in value			.784
Higher Returns(15-20%)			.665
Financial Market Analysis			
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization[a] a. Rotation converged in 5 iterations.			

Source: Survey data

Table 5.14 shows that the rotated components that have been extracted. Evidently, three components were extracted and named according to the items highly loaded into each component. Correlations less than 5.0 or below (which probably are not meaningful anyway) are not noted.

5.3.3 Naming of the variable

All the items are labeled and named assuming its dependency on the volatility and fluctuations on Gold Exchange market conditions and Economic Structure of the market and society, thus framing all the items under the common thread "Economic factors"

Table 5.15 exhibits the Descriptive Statistics of the Economic factors extracted

Table 5.15: Statistics of the Economic factors

		Future risk	Improper investor education	Expected return
N	Valid	395	395	395
	Missing	0	0	0
Mean		29.3620	11.9443	7.6506
Std. Deviation		3.33693	1.83091	1.51623
Range		9.00	5.00	4.00
Minimum		26.00	10.00	6.00
Maximum		35.00	15.00	10.00

Source: Survey data

Table 5.15 depicts the mean values and measures of dispersion of the factors future risk, improper investor education nad expected return extracted under economic factors explored for the study.

The items economic stability, increase in income level, physical gold purchase value decreases, resale value/price issue, physical gold resale value decreases, cannot see gold, possibility of theft are all concerns faced an Gold ETF investor while anticipating the worst case scenario if the decision goes haywire. A stock market crash could result the dropping of all market values enunciating the importance of ensuring a stable economy throughout the investment period. Increased return at the end of payback period could only make him a wise investor. The regret over letting go of physical gold investment and turning into virtual market (Gold ETF) would always bother a cautious investor. Hence the condition of decrease in gold purchase value and inability to see the gold physically aggravated by the fear of price issue or resale value met in Gold ETF market would cripple an investor to a greater extend. But a bold investor always looks into the risk of decrease in physical gold resale value and possibility of theft in the case of physical gold prompting him to make the investment in Gold ETF. Therefore all these items could be aptly labeled as "Future Risk".

The items stated as unaware of stock market conditions, beneficial investment and do not understand stock market all points to the level of knowledge and education received by an investor through experience or awareness programmes organized under SEBI to educate and train an investor thereby protecting him/her from falling into traps and fraudulent practices in the stock market. Therefore these items are labeled as "Improper investor Education".

Items possibility of decrease in value and higher Returns (15-20%) exposes the vulnerability of an investor during investment period. The only criterion which keeps the corpus of investment afloat is the surety of higher returns in the future. Hence these items are loaded into the factor "Expected return".

5.4 Exploring the Technical Factors Influencing Gold ETF Investment Decisions

Here, technical factors are explored which are assumed to influence the Gold ETF investment decision of investors in Kerala.

5.4.1 KMO and Bartlett's Test

Table 5.16: displays KMO and Bartlett's Test of Technical factors

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.532
Bartlett's Test of Sphericity	Approx. Chi-Square	9293.803
	df	253
	Sig.	0.000

Source: Survey data

Table 5.16 shows that while measuring Kaiser-Meyer – Olkin Measure of Sampling Adequacy and Bartlett's Test of Sphericity a value of 0.532 and an identity matrix was obtained respectively. Taken together, these tests give a base standard which ought to be passed before a factor analysis ought to be led.

5.4.2 Factor Analysis and Reduction of Data

Here, the extraction method used is Principal Component Analysis and Rotation used is Varimax with Kaiser Normalization.

5.4.2.1 Communalities of each variable's variance

Table 5.17 shows the Communalities of each variable's variance of Technical factors represented in the common factor space

Table 5.17: Communalities of each variable's variance

	Initial	Extraction
Family Structure	1.000	0.853
Social Environment	1.000	0.877
Past Investment Experiences	1.000	0.791
Government Policies	1.000	0.856
Religious Views	1.000	0.852
Political Views	1.000	0.869
Expert decisions	1.000	0.772
Well-wishers Decisions	1.000	0.794
Suggestion from peers	1.000	0.867
Suggestion from relatives	1.000	0.646
Suggestion from financial advisor	1.000	0.616
Prefer Long-term Gold ETF investment	1.000	0.705
Prefer Traditional Avenues	1.000	0.553
Prefer less risky investment avenues	1.000	0.519
Prefer Short-term Gold ETF investment	1.000	0.823
Sufficient information regarding investment tools	1.000	0.693
Risk reduction through portfolio diversification	1.000	0.906
Financial Publications through Internet	1.000	.888
Financial Publications through Media	1.000	0.645
Good knowledge of Investment plans	1.000	0.831
Good knowledge of financial planning	1.000	0.754
Follow-up of investment tools' performance of return	1.000	0.695
High level of Self confidence	1.000	0.616
Extraction Method: Principal Component Analysis.		

Source: Survey data

From Table 5.17, it is evident that, here all the variables are with high values and are well represented in the common factor space.

5.4.2.2 Total variance extracted under Principal Component Analysis

Table 5.18: explains the total variance of Technical factors extracted.

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.222	35.747	35.747	8.222	35.747	35.747	3.593	15.621	15.621
2	2.964	12.886	48.633	2.964	12.886	48.633	3.576	15.546	31.166
3	2.289	9.950	58.584	2.289	9.950	58.584	2.750	11.958	43.125
4	1.527	6.640	65.223	1.527	6.640	65.223	2.708	11.774	54.899
5	1.367	5.943	71.166	1.367	5.943	71.166	2.450	10.654	65.553
6	1.053	4.580	75.746	1.053	4.580	75.746	2.344	10.193	75.746
7	.961	4.177	79.923						
8	.874	3.798	83.721						
9	.780	3.392	87.113						
10	.598	2.601	89.714						
11	.497	2.160	91.874						
12	.413	1.796	93.670						
13	.333	1.449	95.118						
14	.268	1.164	96.282						
15	.199	.866	97.148						
16	.154	.670	97.818						
17	.132	.574	98.392						
18	.113	.491	98.883						
19	.111	.482	99.365						
20	.071	.311	99.675						
21	.042	.181	99.856						
22	.021	.090	99.946						
23	.012	.054	100.000						

Extraction Method: Principal Component Analysis.

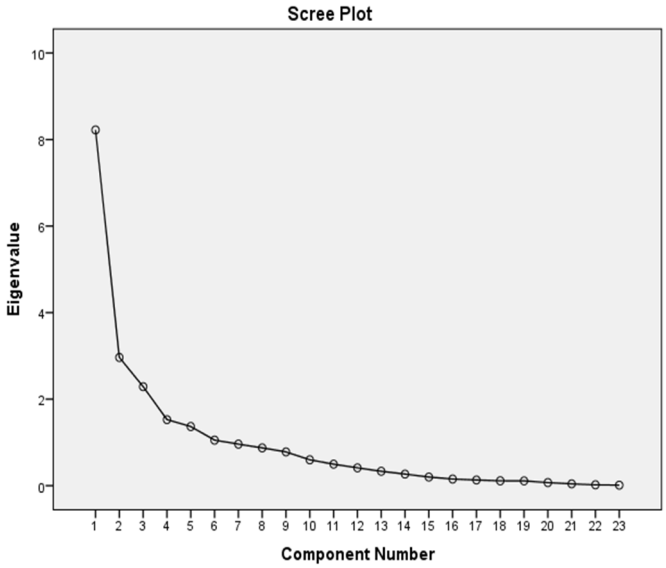
Source: Survey data

Table 5.18 shows that the initial number of components is the same as the number of variables used in the Factor Analysis. But not all 23 components will be retained and only first six components are retained. Since Factor Analysis were conducted on the correlation matrix, standardized variables are obtained giving each variable, a variance equal

to one, and total variance equal to the twenty three variables used in the analysis. First component has most variance and hence highest Eigen value. On estimating the cumulative percentage of variance accounted for by the current and preceding components, the sixth row shows a value of 75.746. This means that the first six components together account for 75.746% of the total variance. Hence six rows for six retained components are obtained after extraction. Varimax rotation, used to estimate variance distribution is represented in the last column

5.4.2.3 Scree Plot of Technical Factors

Fig. 5.4 presents Scree Plot of Technical factors which graphs the Eigen value against the Component Number



Source: Survey data

Fig. 5.4: Scree Plot of Technical Factors

The Scree Plot, depicted in Fig. 5.4, graphs the Eigen value against the Component Number. These values are seen in the first five columns of

the table immediately above. From sixth component on, the line is almost flat, meaning the each successive component is accounting for smaller and smaller amounts of total variance.

5.4.2.4 Rotated Component Matrix

Table 5.19 shows Rotated Component Matrix, of Technical factors with the rotated components that have been extracted.

Table 5.19: Rotated Component Matrix

	Component					
	1	2	3	4	5	6
Good knowledge of Investment plans	0.832					
Finanial Publications through Media	0.690					
Prefer less risky investment avenues	0.658					
Prefer Long-term Gold ETF investment	0.648					
Prefer Short-term Gold ETF investment	0.615					
Suggestion from financial advisor						
High level of Self confidence						
Suggestion from peers		0.892				
Well-wishers Decisions		0.803				
Suggestion from relatives		0.711				
Past Investment Experiences		0.627				
Government Policies						
Social Environment			0.855			
Family Structure			0.814			
Expert decisions			0.752			
Good knowledge of financial planning				0.803		
Follow-up of investment tools' performance of return				0.765		
Prefer Traditional Avenues						
Sufficient information regarding investment tools						
Religious Views					0.850	
Political Views					0.813	
Financial Publications through Internet						0.890
Risk reduction through portfolio diversification						0.774
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.[a]						
a. Rotation converged in 8 iterations.						

Source: Survey data

Table 5.19 shows the rotated components that have been extracted. Evidently, six components were extracted and named according to the items highly loaded into each component. Correlations less than 5.0 or below (which probably are not meaningful anyway) are not noted.

5.4.3 Naming of the variable

All the items are labeled and named assuming the role played by each in explaining the technicality behind an investor making a Gold ETF investment decision, and the quantum of investment, thereby giving the common name as under "Technical Factors".

Table 5.20 presents the Descriptive Statistics of the Technical factors extracted

Table 5.20: Statistics of the Technical factors

		Investment preference and knowledge	Source of investment information	Rational decision making attributes	Investment Perception	Business Environment	Source of investment diversification
N	Valid	395	395	395	395	395	395
	Missing	0	0	0	0	0	0
Mean		20.6278	16.2658	11.9266	7.5316	7.6278	7.6304
Std. Deviation		2.63339	2.25477	1.84341	1.55798	1.52167	1.52645
Range		7.00	6.00	5.00	4.00	4.00	4.00
Minimum		18.00	14.00	10.00	6.00	6.00	6.00
Maximum		25.00	20.00	15.00	10.00	10.00	10.00

Source: Survey data

Table 5.20 depicts the mean values and measures of dispersion of the factors investment preference and knowledge, source of investment

information, rational decision making attributes, investment perception, business environment and source of investment diversification extracted under technical factors explored for the study.

Items good knowledge of investment plans and financial publications through media exhibits the knowledge level of an investor and items prefer less risky investment avenues, prefer long-term gold ETF investment and prefer short-term gold ETF investment exhibits the preference in investment period and mode of investment. Hence these items could be together grouped as factor "Investment preference and Knowledge".

Items past investment experiences, suggestion from peers, suggestion from relatives and well-wishers decisions all shows the reasons behind making the investment choice. It demarcates where an investor gathered information while deciding the investment avenue and quantum of investment. Hence these items could be labeled under the factor "Source of Investment Information".

A rational investor would not cave into mere whims and prejudices of others and makes an investment only after precise calculations and specifications. Items social environment, family structure and expert decisions could be the deciding factors which prompt a cautious investor in making a technical analysis of the portfolio the investor chose, for the fear over systematic and unsystematic risk expected to be faced in the future. Therefore these items could blend into the factor "Rational Decision making attributes".

Items good knowledge of financial planning and follow-up of investment tools' performance of return shows the efficiency in making investments by an investor and how thoroughly he perceives the quantum of investment made in the specific sectors (here, gold ETF) to have a higher growth potential to be harvested at the end of payback period. Hence these items could be placed under the factor name "Investment Perception".

An investment decision gets always muddled under religious beliefs and cultural attributes followed and practiced by an investor. There are chances of an investor making wrong decisions because of the biased condition he is been exposed to on account of his beliefs, be it political or cultural or religious. Therefore the items Religious Views and Political Views could be rightly placed under the factor "Business Environment (Political and Cultural)".

The oldest contrition of not putting all eggs in one basket to avoid pitfalls in future is always followed by an investor, both cautious and bold. The decision of diversifying an investor's portfolio could be made on umpteen reasons and the sectors upon which the investments are made varies from one investor to another. But the items mentioned as Financial Publications through Internet and Risk reduction through portfolio diversification are found to be the controlling attributes behind almost every diversification. Hence these items could be labeled under the factor "Source of investment diversification".

5.5 Deductive Conclusion

After extraction through principal component analysis, items pertaining to behavioural finance, social, economic and technical factors were named. The behavioural finance factors were named as over confidence bias, herd behavior, mental accounting, representative bias, regret aversion, and hindsight bias. The social factors include motive for investment, awareness and basic needs, provisions of investment, investment expectation, and economic growth. The economic factors cover future risk, improper investor education and expected return. The technical factors were named as investment preference and knowledge, source of investment information, rational decision making attributes, investment perception, business environment (political & cultural) and source of investment diversification. All of these labeled factors were found to influence Gold Exchange Traded Funds Investment decisions of investors in Kerala.

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Chapter 6

INVESTMENT ATTRIBUTES AND QUANTUM OF INVESTMENT- EXPLORING THE DISCRIMINANT ABILITY OF FACTORS IN DETERMINING THE QUANTA

Contents

In the previous chapter we discussed about identifying factors and extracting variables for study. Accordingly, behavioural finance factors such as over confidence bias, herd behaviour, mental accounting, representative bias, regret aversion and hindsight bias, social factors such as motive for investment, awareness and basic needs, provisions for investment, investment expectation and economic growth, economic factors such as future risk, improper investor education and expected return and technical factors such as investment preference and knowledge, source of investment information, rational decision making attributes,

investment perception, business environment and source of investment diversification were identified using exploratory factor analysis. This chapter is devoted to differentiate Gold ETF investors as Low, Medium and High Level Investors using Discriminant Analysis. "Level" means the quantum of investment.

6.1 Classifying Gold ETF Investors

For the purpose of this study, a low level Gold ETF investor is identified as an investor who makes a contribution of less than ten percentage of their total investment towards Gold ETF, a medium level Gold ETF investor as an investor who makes a contribution ranging between ten to twenty five percentage of their total investment towards Gold ETF and a high level Gold ETF investor as an investor who makes a contribution of above twenty five percentage of their total investment towards Gold ETF. These levels were identified and named on the basis of the data collected from the survey.

Table 6.1 shows the Gold ETF investment levels based on frequency analysis

Table 6.1: ETF Investment Level

	Frequency	Percent	Valid Percent	Cumulative Percent
Low	68	17.2	17.2	17.2
Medium	234	59.2	59.2	76.5
High	93	23.5	23.5	100.0
Total	395	100.0	100.0	

Source: Survey data

Accordingly, the frequency analytical results, depicted in Table 6.1 shows that 17.2% of the investors are Low Level Gold ETF Investor, 59.2% of the investors are Medium Level Gold ETF Investors and 23.5% of investors are classified as High Level Gold ETF Investor.

Table 6.2: Descriptive Statistics of independent variables

	N	Minimum	Maximum	Mean	Std. Deviation
Over Confidence Bias	395	18.00	25.00	20.5848	2.65146
Herd Behaviour	395	10.00	15.00	11.8304	1.88477
Mental Accounting	395	12.00	20.00	15.6608	2.60151
Representative bias	395	6.00	10.00	7.8987	1.31947
Regret aversion	395	6.00	10.00	7.6532	1.48895
Hindsight bias	395	6.00	10.00	7.6405	1.52055
Investment preference and knowledge	395	18.00	25.00	20.6278	2.63339
Source of investment information	395	14.00	20.00	16.2658	2.25477
Rational decision making attributes	395	10.00	15.00	11.9266	1.84341
Investment Perception	395	6.00	10.00	7.5316	1.55798
Business Environment	395	6.00	10.00	7.6278	1.52167
Source of investment diversification	395	6.00	10.00	7.6304	1.52645
Motive for Investment	395	14.00	20.00	16.3797	2.20235
Awareness and basic needs	395	14.00	20.00	16.3975	2.18822
Provisions for Investment	395	10.00	15.00	11.9367	1.85750
Investment expectation	395	10.00	15.00	11.9772	1.83646
Economic growth	395	10.00	15.00	11.9241	1.82323
Future risk	395	26.00	35.00	29.3620	3.33693
Improper investor education	395	10.00	15.00	11.9443	1.83091
Expected return	395	6.00	10.00	7.6506	1.51623
Valid N (listwise)	395				

Source: Survey data

Table 6.2 exhibits the descriptive statistics of all the factors including behavioural finance, social, economic and technical factors extracted for the study.

6.2 Discriminating High Level to Medium Level and Low Level Gold ETF Investor based on Behavioural Finance Factors

The group statistics of the six factors contributing towards Behavioural Finance which are taken to find out the discriminating ability are furnished in the Table 6.3. If the means of all the six variables are considered along with the grouping variable, it is observed that, the means for High Level Gold ETF Investors is higher than the means of Low Level Gold ETF Investors and Middle Level Gold ETF Investors.

Table 6.3: The Group Statistics of the six factors contributing towards Behavioural Finance

ETF Investment Level		Mean	Std. Deviation	Valid N (listwise)	
				Unweighted	Weighted
Low	Over Confidence Bias	19.2647	1.20469	68	68.000
	Herd Behaviour	10.8529	.77776	68	68.000
	Mental Accounting	14.4118	1.13605	68	68.000
	Representative bias	7.2206	.68775	68	68.000
	Regret aversion	6.9265	.81618	68	68.000
	Hindsight bias	6.8824	.88990	68	68.000
Medium	Over Confidence Bias	19.2222	1.17273	234	234.000
	Herd Behaviour	10.8846	.86388	234	234.000
	Mental Accounting	14.2991	1.11382	234	234.000
	Representative bias	7.2650	.72234	234	234.000
	Regret aversion	6.9316	.82583	234	234.000
	Hindsight bias	6.9444	.91313	234	234.000
High	Over Confidence Bias	24.9785	.20739	93	93.000
	Herd Behaviour	14.9247	.47173	93	93.000
	Mental Accounting	20.0000	.00000	93	93.000
	Representative bias	9.9892	.10370	93	93.000
	Regret aversion	10.0000	.00000	93	93.000
	Hindsight bias	9.9462	.42645	93	93.000
Total	Over Confidence Bias	20.5848	2.65146	395	395.000
	Herd Behaviour	11.8304	1.88477	395	395.000
	Mental Accounting	15.6608	2.60151	395	395.000
	Representative bias	7.8987	1.31947	395	395.000
	Regret aversion	7.6532	1.48895	395	395.000
	Hindsight bias	7.6405	1.52055	395	395.000

Source: Survey data

The results of Table 6.3 clearly shows that the factor overconfidence bias has a higher impact on a high level Gold ETF investor, supportively with a mean value of 24.9785 than on lower level (19.2647) and medium level (19.2222) investors. This result could be used to state that a high level investor seems more overconfident and makes a higher proportion to Gold ETF investments than its counterparts. Same results are found when other five factors including herd behavior, mental accounting, representative bias, regret aversion and hind sight bias are also considered, cementing the fact that a high level investor experiences the biases on a greater magnitude than lower and medium level investors, positioning them with a higher quantum of investment level. The discriminating ability of these factors are further studied and discussed in the later sections of this Chapter.

Further, an attempt was made to check the significance of the difference in the means across three classifying groups, using Tests of Equality of Group Means, the result of which is shown in Table 6.4

Table 6.4: Tests of Equality of Group Means for Behavioural Finance factors

	Wilks' Lambda	F	df1	df2	Sig.
Over Confidence Bias	.152	1091.606	2	392	.000
Herd Behaviour	.168	971.916	2	392	.000
Mental Accounting	.141	1195.744	2	392	.000
Representative bias	.225	675.594	2	392	.000
Regret aversion	.233	645.133	2	392	.000
Hindsight bias	.290	480.139	2	392	.000

Source: Survey data

From Table 6.4, it can be seen that the means significantly differs ($p<.05$) among the three categories for all the factors. This shows that, there is difference among mean score for all the six factors of Behavioural Finance among Gold ETF Investors with low, middle and High Level of investment. From this it is concluded that all the factors of Behavioural Finance are having the discriminating ability.

Table 6.5 displays the Eigen values indicating the proportion of variance explained by the First 2 canonical discriminant functions

Table 6.5: Eigen values for Behavioural Finance factors

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	22.669[a]	100.0	100.0	0.979
2	0.004[a]	0.0	100.0	0.061

a. First 2 canonical discriminant functions were used in the analysis.

Source: Survey data

Table 6.6 Presents the statistical test of significance for Wilk's Lambda

Table 6.6: Wilk's Lamba and test for significance for Behavioural Finance factors

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1 through 2	0.042	1233.901	12	0.000
2	0.996	1.466	5	0.917

Source: Survey data

From Tables 6.5 and 6.6, it can be seen that with more than two groups, more than one discriminant function can be obtained. The Eigen value (22.669) indicates the proportion of variance explained by the first

function. It explains 100% of the variance. The canonical correlation (0.979) is the correlation between the discriminant scores and the levels of dependent variable which was found to be positively correlated. The square of the canonical correlation is 0.958 and hence 96% of the variance in the discriminating model is due to the changes in the six factors of behavioral finance. The significance of this discriminant function is tested by framing the following hypothesis.

Hypothesis:

H0: The variables considered here do not have the discriminating ability to distinguish a High Level Gold ETF Investor to Middle Level Gold ETF Investor to Low Level Gold ETF Investor.

H1: The variables considered here have the discriminating ability to distinguish a High Level Gold ETF Investor to Middle Level Gold ETF Investor to and Low Level Gold ETF Investor

The statistical test of significance for Wilk's Lambda shows that the variables are significant ($p<0.05$). Hence the hypothesis is rejected and this discriminant function can be further used for explanations.

The results of Tables 6.5 and 6.6 are also used to explain the second discriminant function. Accordingly, when we consider the second discriminant function, the Eigen value (0.004) indicates the proportion of variance explained by the second function. It explains 0% of the variance. The canonical correlation (0.061) is the correlation between the discriminant scores and the levels of dependent variable which was found to be positively correlated. The square of the canonical correlation is

0.00372 and hence 0.37% of the variance in the discriminating model is due to the changes in the six factors of behavioral finance. The significance of this discriminant function is tested by framing the following hypothesis.

Hypothesis:

H0: The variables considered here do not have the discriminating ability to distinguish a High Level Gold ETF Investor from Middle Level Gold ETF Investor and Low Level Gold ETF Investor.

H1: The variables considered here have the discriminating ability to distinguish a High Level Gold ETF Investor from Middle Level Gold ETF Investor and Low Level Gold ETF Investor.

The statistical test of significance for Wilk's Lambda shows that the variable are not significant ($p<0.05$). Hence the hypothesis is accepted and this discriminant function cannot be further used for explanations.

Table 6.7 shows Standardized Canonical Discriminant Function Coefficients to measure the relative contribution of each of the predictor variable on the discriminant function

Table 6.7: Standardized Canonical Discriminant Function Coefficients of Behavioural Finance factors

	Function	
	1	2
Over Confidence Bias	0.451	-.223
Herd Behaviour	0.407	0.341
Mental Accounting	0.465	0-.688
Representative bias	0.335	0.417
Regret aversion	0.366	0-.028
Hindsight bias	0.230	0.474

Source: Survey data

Table 6.7 shows that each Standardized Canonical Discriminant Function Coefficient in absolute values reflects the relative contribution of each of the predictor variable on the discriminant function. Here when first discriminant function is considered, it was found that Mental Accounting (0.465) is exerting more influence in discriminating between a High Level Gold ETF Investor to Medium Level Gold ETF Investor to Low Level Gold ETF Investor. It is followed by Over Confidence Bias (0.451). The lowest discriminating power is shown by Hindsight Bias (0.230).

The supportive evidence to this finding could be drawn from the behavioral life cycle hypothesis (Shefrin & Thaler 1988), a major application of Mental Accounting, which highlights that individuals rationally outline resource classes as having a place with either current pay, current riches or future salary and this has effects on their conduct as the accounts are generally non-fungible and marginal inclination to expend out of each account is unique. This concept initially put forth by Thaler (1999) is been drastically witnessed in this study. A high level gold ETF investor experiences a higher utility, acquisition and transaction value from Gold ETF investments, hence his contribution towards ETF pool remains higher, whereas a lower gold ETF investor experiences lower utility, acquisition and transaction value from Gold ETF investor, making him hesitant to make a higher contribution towards gold ETF investments.

Also, the study results of Anu Antony, Ansted Iype Joseph (2017) to identify the effect of the behavioural factors affecting the investment

decision of the investors residing in Kerala, are to an extent in favour to this study, in stating the fact that the investors of Kerala were highly influenced by overconfidence bias and regret aversion during their point of decision-making. In the respective analysis, it was evident that even though a dominant role is played by mental accounting, in close proximity there is Overconfidence bias as a contributing factor affecting the discrimination of gold ETF investors to high level followed by medium and low level gold ETF investors.

Table 6.8 depicts Canonical Discriminant Function Coefficients indicating unstandardized scores

Table 6.8: Unstandardized coefficients of Behavioural Finance factors

	Function	
	1	2
Over Confidence Bias	0.435	-.215
Herd Behaviour	0.526	0.441
Mental Accounting	0.475	-0.703
Representative bias	0.533	0.665
Regret aversion	0.508	-0.039
Hindsight bias	0.280	0.578
(Constant)	-32.833	0.852
Unstandardized coefficients		

Source: Survey data

Table 6.8 shows the Canonical Discriminant Function Coefficients indicating the unstandardized scores concerning the independent behavioual finance variables. It is the list of Coefficients of the unstandardized discriminant equation.

Function:1:

Gold ETF Investments = -32.833+ (0.435 OCB)+(0.526 HB)+(0.475 MA)+(0.533 RB)+(0.508 RA)+(0.280 HSB)

OCB = OVER CONFIDENCE BIAS ; ***HB*** = HERD BEHAVIOUR ; ***MA*** = MENTAL ACCOUTING ; ***RB*** = REPSENTATIVE BIAS ; ***RA*** = REGRET AVERSION ; ***HSB*** = HINDSIGHT BIAS

Table 6.9 presents Functions at Group Centroids, with unstandardized canonical discriminant functions evaluated at group means

Table 6.9: Functions of Behavioural Finance factors at Group Centroids

ETF Investment Level	Function	
	1	2
Low	-2.623	-0.130
Medium	-2.635	0.038
High	8.547	9.845E-005

Unstandardized canonical discriminant functions evaluated at group means

Source: Survey data

In the case of first function, it can be interpreted from Table 6.9 that a High Level Gold ETF Investor have a mean of 8.547,for Medium Level Gold ETF Investor mean value is -2.635 and Low Level Gold ETF Investor have mean of -2.623. Since the first function explains 100% variance, it is more relevant.

Separate-Groups Graphs

Fig 6.1, 6.2 and 6.3 presents Separate Group graph for Low, Medium and High Gold ETF Investment level in terms of Behavioural Finance factors respectively

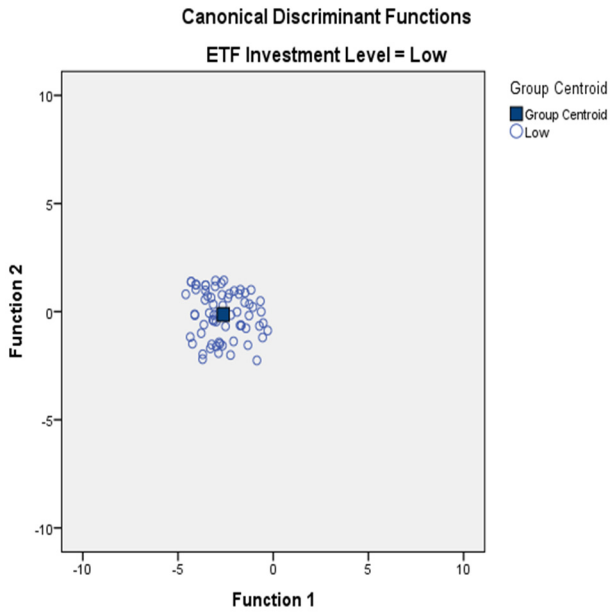


Fig. 6.1: Canonical Discriminant Function of Behavioural Finance factors - Low ETF Investment level

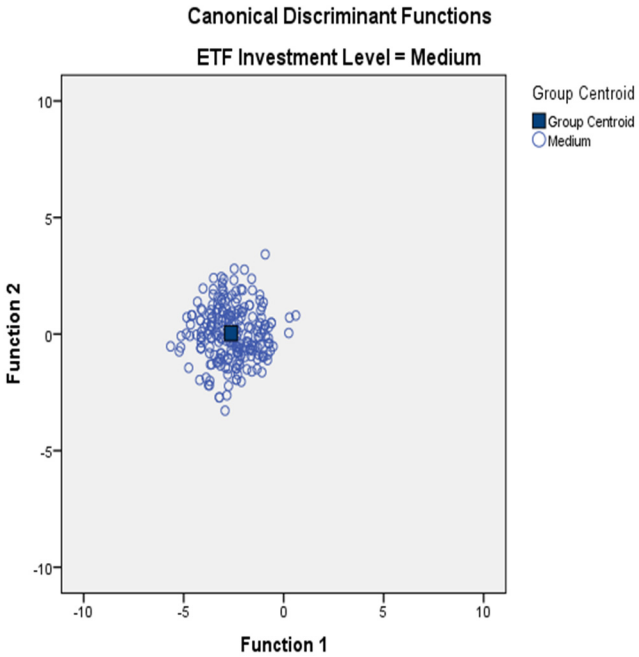


Fig. 6.2: Canonical Discriminant Function of Behavioural Finance factors - Medium ETF Investment level

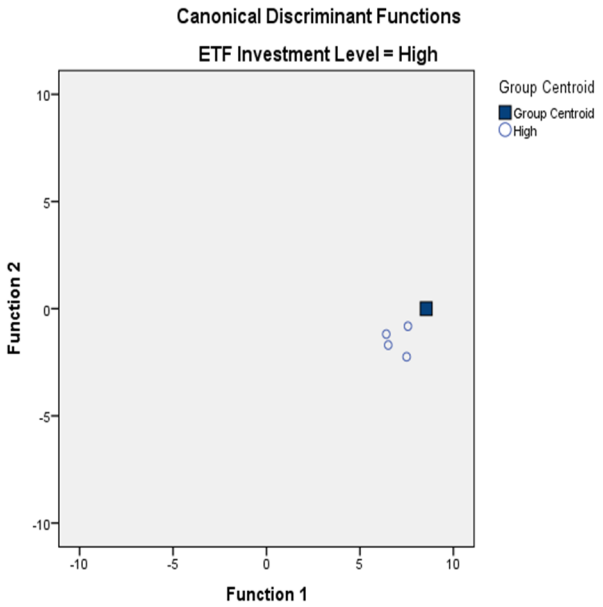


Fig. 6.3: Canonical Discriminant Function of Behavioural Finance factors - High ETF Investment level

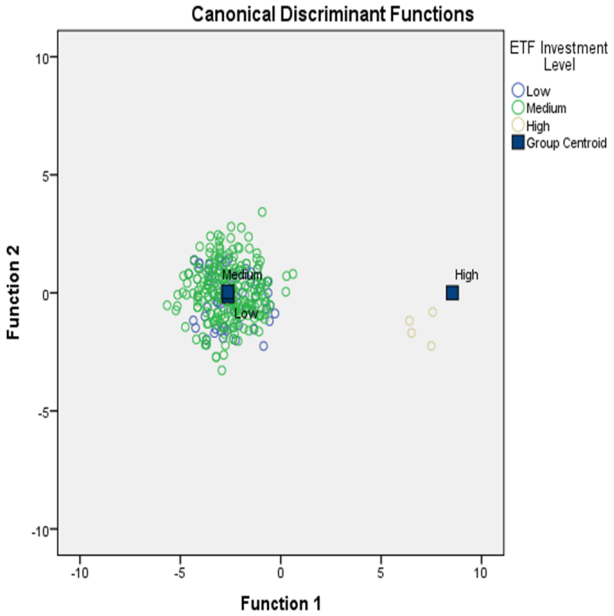


Fig. 6.4: Presents Canonical Discriminant Functions for Low, Medium and High Gold ETF Investment level simultaneously in terms of Behavioural Finance factors

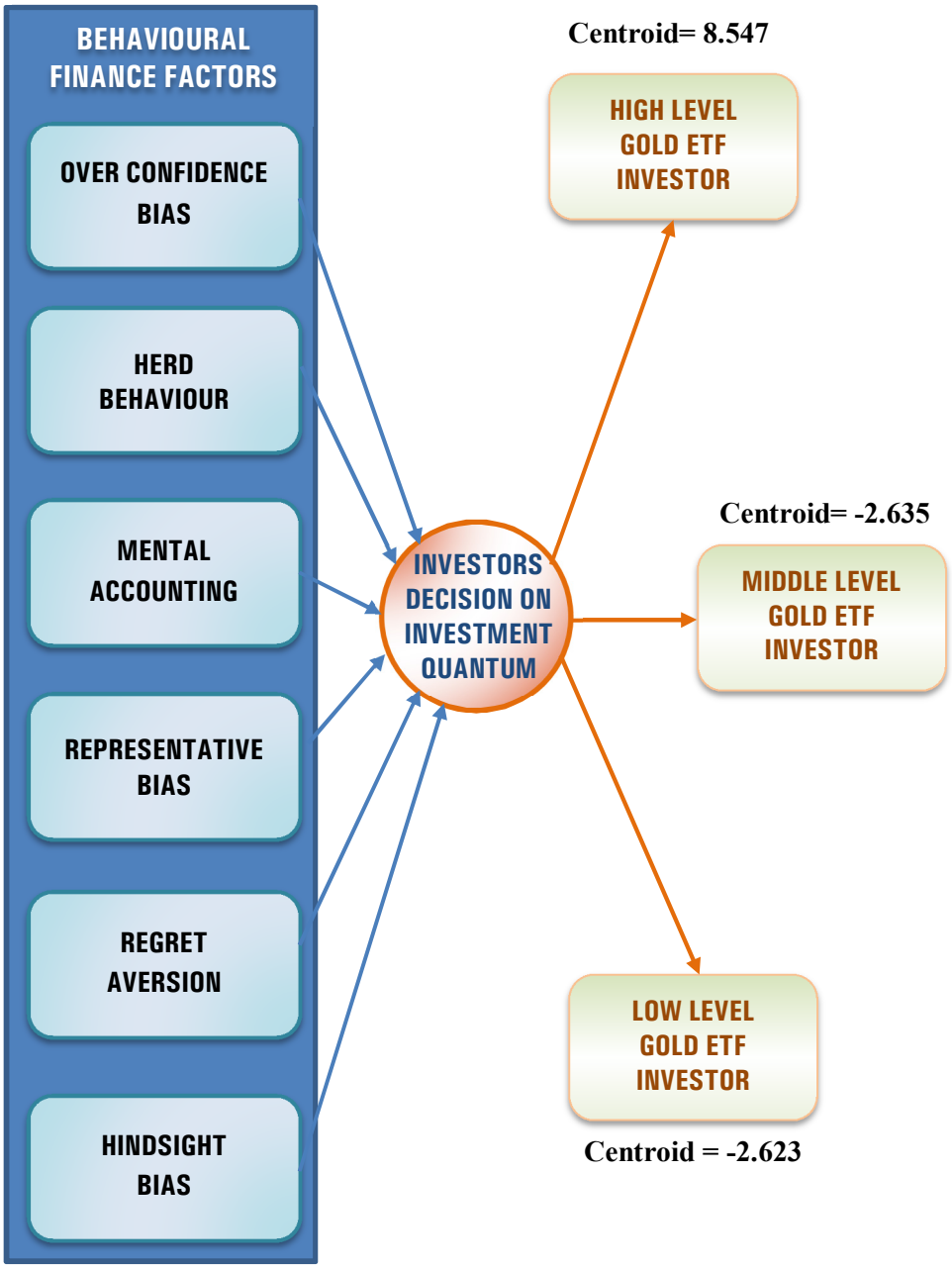


Fig. 6.5: Presents the Discriminating status of a High Level Gold ETF Investor from Middle and Low Level Gold ETF Investor in terms of Behavioural Finance factors based on first function

6.3 Discriminating a High Level Gold ETF Investor to Middle Level Gold ETF Investor and Low Level Gold ETF Investor based on Social factors:

The group statistics of the five factors contributing towards Social factors which are taken to find out the discriminating ability are furnished in the Table 6.10.

Table 6.10 The group statistics of the six factors contributing towards Social factors

Table 6.10: Group Statistics of Social factors

ETF Investment Level		Mean	Std. Deviation	Valid N (listwise)	
				Unweight	Weighted
Low	Motive for Investment	15.2500	1.05625	68	68.000
	Awareness and basic needs	15.3235	1.16467	68	68.000
	Provisions for Investment	10.8382	.82154	68	68.000
	Investment expectation	11.0882	.80549	68	68.000
	Economic growth	10.9265	.67617	68	68.000
Medium	Motive for Investment	15.2692	1.01921	234	234.000
	Awareness and basic needs	15.2991	1.01292	234	234.000
	Provisions for Investment	11.0385	.85582	234	234.000
	Investment expectation	11.0342	.86349	234	234.000
	Economic growth	10.9915	.74114	234	234.000
High	Motive for Investment	20.0000	.00000	93	93.000
	Awareness and basic needs	19.9462	.51848	93	93.000
	Provisions for Investment	15.0000	.00000	93	93.000
	Investment expectation	15.0000	.00000	93	93.000
	Economic growth	15.0000	.00000	93	93.000
Total	Motive for Investment	16.3797	2.20235	395	395.000
	Awareness and basic needs	16.3975	2.18822	395	395.000
	Provisions for Investment	11.9367	1.85750	395	395.000
	Investment expectation	11.9772	1.83646	395	395.000
	Economic growth	11.9241	1.82323	395	395.000

Source: Survey data

If the means of all the five variables are considered along with the grouping variable, it is observed that, the means for High Level Gold ETF Investors is higher than the means of Low Level Gold ETF Investors and Middle Level Gold ETF Investors.

From Table 6.10 it is evident that the factor motive for investment has a high mean value in the case of a high level gold ETF investor (20.0000) than a low level (15.2500) or a medium level (15.2692) investor. This data could be interpreted in stating that a high level investor tends to make a higher proportion of gold ETF investments than its counterparts when his motive for investment is given due consideration. This trend is repeated in the case of other five factors, namely awareness and basic needs, provisions for investment, investment expectation and economic growth, as well, thereby assuring the unique position of a high level investor with a higher quantum of investment. The discriminating ability of these factors are discussed in the later sections of this Chapter.

Further an attempt was made to check the significance of the difference in the means across three classifying groups. The result is given in Table 6.11.

Table 6.11: Tests of Equality of Group Means of Social factors

	Wilks' Lambda	F	df1	df2	Sig.
Motive for Investment	.166	986.377	2	392	.000
Awareness and basic needs	.188	846.574	2	392	.000
Provisions for Investment	.159	1038.263	2	392	.000
Investment expectation	.163	1003.113	2	392	.000
Economic growth	.121	1422.416	2	392	.000

Source: Survey data

From Table 6.11, it can be seen that the means significantly differs ($p<.05$) among the three categories for all the factors. This shows that, there is difference among mean score for all the five factors of Social factors among Gold ETF Investors with low, middle and High Level of investment. From this, it is concluded that all the factors of Social factors are having the discriminating ability.

Table 6.12 presents the Eigen values indicating the proportion of variance explained by the First 2 canonical discriminant functions

Table 6.12: Eigenvalues of Social factors

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	26.322[a]	100.0	100.0	.982
2	.010[a]	.0	100.0	.101

a. First 2 canonical discriminant functions were used in the analysis.

Source: Survey data

The results of the statistical test of significance for Wilk's Lambda are shown in the Table 6.13

Table 6.13: Wilks' Lambda of Social factors

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1 through 2	0.036	1293.975	10	0.000
2	0.990	3.970	4	0.410

Source: Survey data

From the Tables 6.12 and 6.13, it could be interpreted as with more than two groups, more than one discriminant function can be obtained. The Eigen value (26.322) indicates the proportion of variance explained by the first function. It explains 100% of the variance. The canonical correlation (0.982) is the correlation between the discriminant scores and the levels of dependent variable which was found to be positively correlated. The square of the canonical correlation is 0.964 and hence 96% of the variance in the discriminating model is due to the changes in the five factors of Social factors. The significance of this discriminant function is tested by framing the following hypothesis.

Hypothesis:

H0: The variables considered here do not have the discriminating ability to distinguish a High Level Gold ETF Investor from Middle Level Gold ETF Investor and Low Level Gold ETF Investor.

H1: The variables considered here have the discriminating ability to distinguish a High Level Gold ETF Investor from Middle Level Gold ETF Investor and Low Level Gold ETF Investor.

The statistical test of significance for Wilk's Lambda shows that the variables are significant ($p<0.05$). Hence the hypothesis is rejected and this discriminant function can be further used for explanations.

The results of the Tables 6.12 and 6.13 are also used to interpret the second discriminant function. Accordingly, it was observed that in the case of second discriminant function, the Eigen value (0.010) which indicates the proportion of variance explained by the second function, explains 0% of the variance. The canonical correlation (0.101) is the correlation between the discriminant scores and the levels of dependent variable which was found to be positively correlated. The square of the canonical correlation is 0.010201 and hence 1.02% of the variance in the discriminating model is due to the changes in the five factors of Social factors. The significance of this discriminant function is tested by framing the following hypothesis.

Hypothesis:

H0: The variables considered here do not have the discriminating ability to distinguish a High Level Gold ETF Investor from Middle Level Gold ETF Investor and Low Level Gold ETF Investor.

H1: The variables considered here have the discriminating ability to distinguish a High Level Gold ETF Investor from Middle Level Gold ETF Investor and Low Level Gold ETF Investor.

The statistical test of significance for Wilk's Lambda shows that the variables are not significant ($p<0.05$). Hence the hypothesis is accepted and this discriminant function cannot be further used for explanations.

Table 6.14 presents Standardized Canonical Discriminant Function Coefficients to Measure the relative contribution of each of the predictor variable on the discriminant function

Table 6.14: Standardized Canonical Discriminant Function Coefficients of Social factors

	Function	
	1	2
Motive for Investment	0.429	0.132
Awareness and basic needs	0.375	0.403
Provisions for Investment	0.380	-0.823
Investment expectation	0.486	0.474
Economic growth	0.526	-0.117

Source: Survey data

Each Standardized Canonical Discriminant Function Coefficient in absolute values reflects the relative contribution of each of the predictor variable on the discriminant function. Here when first discriminant function is considered, it was found that Economic Growth (0.526) is exerting more influence in discriminating between a High Level Gold ETF Investor to Middle Level Gold ETF Investor to Low Level Gold ETF Investor. It is followed by Investment Expectation (0.486). The lowest discriminating power is shown by Awareness and Basic Needs (0.375).

According to the findings of Mohammad Salahuddin and Mohammad Rabiul Islam (2008), investment decisions still seem to be significantly affected by traditional determinants such as growth, domestic savings, trade openness etc. Accordingly in the present study, Economic growth plays a dominant role in deciding the quantum of investment by Gold ETF investors.

Further in the study results of Sharma et. al (2014) which identifies twenty five key factors that influence the choice of investment avenue and investment decision in the Households of Oman, most influencing rational factor being Market Trends, followed by Income level of Investors, Profitability of Investment, Place of Investment, Past experience, Capital Amount of Investment, Risk Tolerance, Advocate Recommendations, Information about investment avenues, Return Needs, Accounting Information, Investment needs, Economic conditions, Investment horizon, Tex exposure, Industry growth, Competitive investor performance and least influencing being Government policies, the role played by factor "Awareness and basic needs of the investor" (stated as information and investment needs) and Economic growth (stated as Economic conditions) occupies twelfth, thirteenth and fourteenth position respectively. This is in dire contrast to the present analytical result which depicts that Economic growth is the most effective factor followed by its counterparts in estimating the level of investment in Gold ETF investors.

Table 6.15: Presents Unstandardized Canonical Discriminant Function Coefficients of Social factors

	Function	
	1	2
Motive for Investment	0.477	0.147
Awareness and basic needs	0.394	0.424
Provisions for Investment	0.512	-1.109
Investment expectation	0.653	0.637
Economic growth	0.827	-0.184
(Constant)	-38.062	-1.567
Unstandardized coefficients		

Source: Survey data

Table 6.15 presents Canonical Discriminant Function Coefficients indicating unstandardized scores concerning the independent social variables. It is the list of Coefficients of the unstandardized discriminant equation depicted below.

Function 1:

Gold ETF Investments = -38.062+ (0.477 MFI) + (0.394 ABN) + (0.512 PFI) + (0.653 IE) + (0.827 EG)

MFI = MOTIVE FOR INVESTMENT; **ABN** = AWARENESS AND BASIC NEEDS; **PFI** = PROVISIONS FOR INVESTMENT; **IE** = INVESTMENT EXPECTATION; **EG** = ECONOMIC GROWTH

Table 6.16 presents the values of unstandardized canonical discriminant functions evaluated at group means

Table 6.16: Functions of Social factors at Group Centroids

ETF Investment Level	Function	
	1	2
Low	-2.930	.213
Medium	-2.809	-.063
High	9.210	.002

Unstandardized canonical discriminant functions evaluated at group means

Source: Survey data

From Table 6.16, in the case of first function, it can be interpreted that, High Level Gold ETF Investor have a mean of 9.210,for Middle Level Gold ETF Investor mean value is -2.809 and Low Level Gold ETF Investor have mean of -2.930. Since the first function explains 100% variance, it is more relevant. In the case of second function, it can be interpreted that, High Level Gold ETF Investor have a mean of .002, for Middle Level Gold ETF Investor mean value is -0.063 and Low Level Gold ETF Investor have mean of 0.213.

Separate-Groups Graphs

Fig 6.6, 6.7 and 6.8 presents Canonical Discriminant Functions for Gold ETF Investment at Lower, Medium and Higher Level, respectively with respect to Social factors

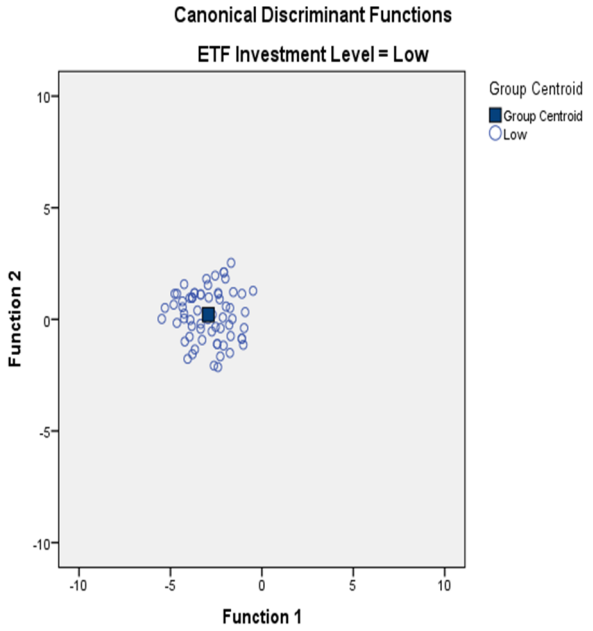


Fig. 6.6: Canonical Discriminant Function of Social factors - Low ETF Investment level

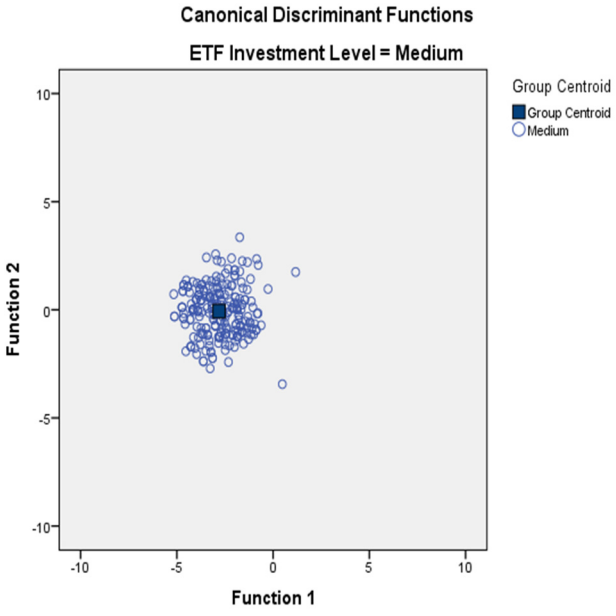


Fig. 6.7: Canonical Discriminant Function of Social factors - Medium ETF Investment level

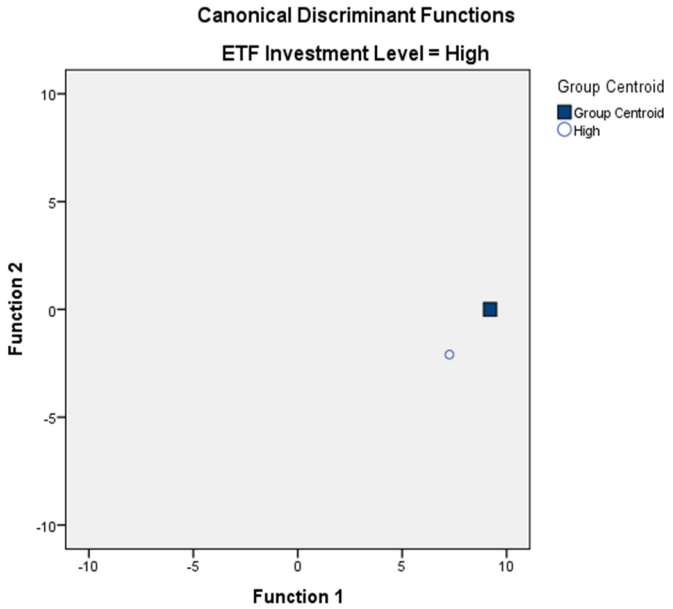


Fig. 6.8: Canonical Discriminant Function of Social factors - High ETF Investment level

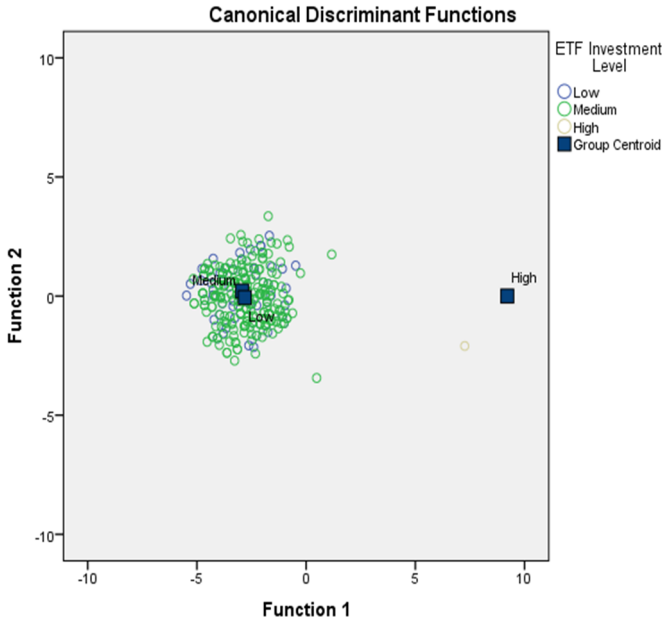


Fig. 6.9 Presents Canonical Discriminant Function of Social factors at Low, Medium and High Gold ETF Investment level simultaneously

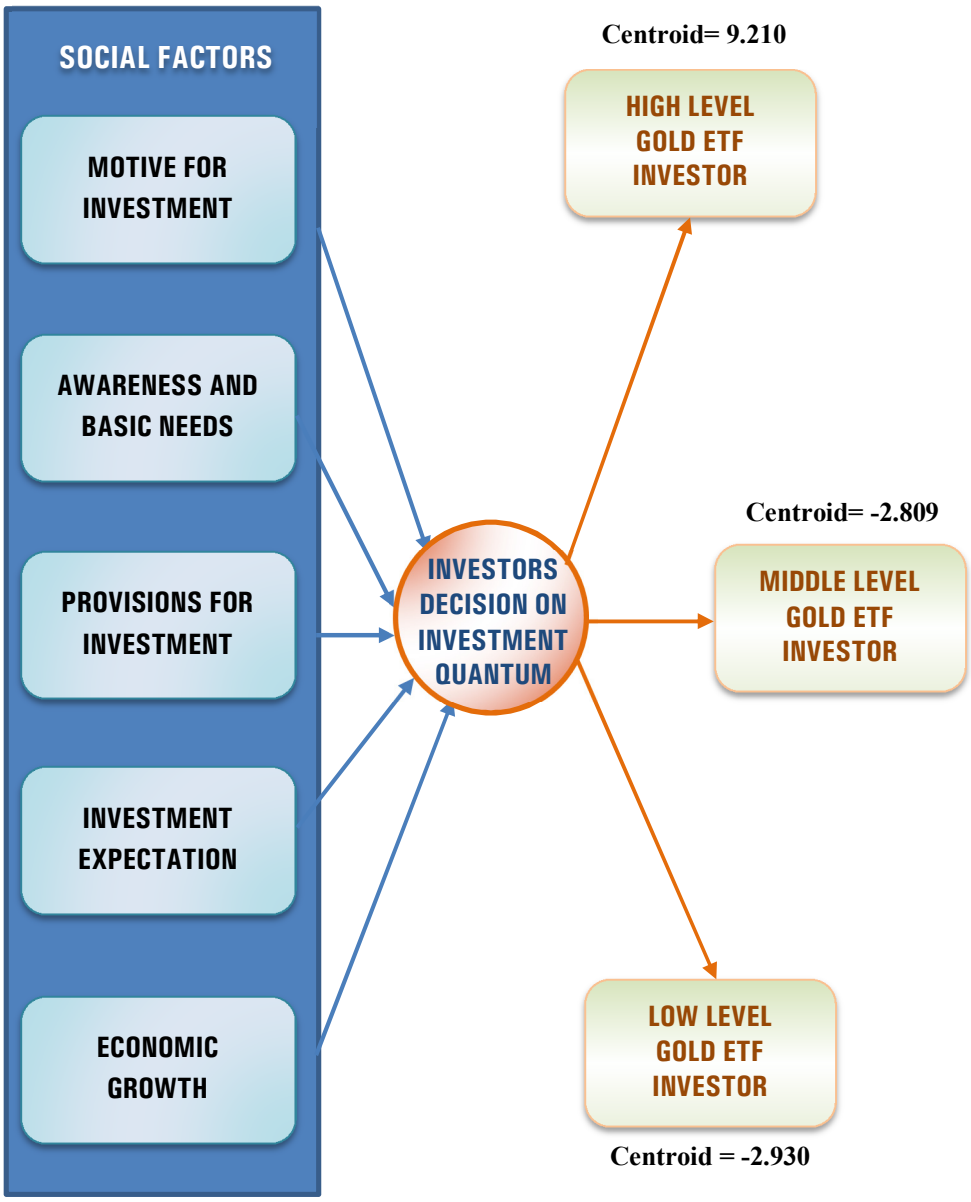


Fig. 6.10: Presents Discriminating function of Social factors discriminating High Level Gold ETF Investor from Medium and Low level Gold ETF Investor based on first function

6.4 Discriminating a High Level Gold ETF Investor from Middle Level Gold ETF Investor and Low Level Gold ETF Investor based on Economic factors:

The group statistics of the three factors contributing towards Economic factors which are taken to find out the discriminating ability are furnished in the Table 6.17. If the means of all the three variables are considered along with the grouping variable, it is observed that, the means for High Level Gold ETF Investors is higher than the means of Low Level Gold ETF Investors and Middle Level Gold ETF Investors.

Table 6.17 presents the group statistics of the six factors contributing towards Economic factors

Table 6.17: Group Statistics of Economic factors

ETF Investment Level		Mean	Std. Deviation	Valid N (listwise)	
				Unweighted	Weighted
Low	Future risk	27.7206	1.35873	68	68.000
	Improper investor education	10.9265	.75934	68	68.000
	Expected return	6.8676	.91267	68	68.000
Medium	Future risk	27.5983	1.30407	234	234.000
	Improper investor education	11.0256	.79117	234	234.000
	Expected return	6.9573	.89724	234	234.000
High	Future risk	35.0000	.00000	93	93.000
	Improper investor education	15.0000	.00000	93	93.000
	Expected return	9.9677	.31109	93	93.000
Total	Future risk	29.3620	3.33693	395	395.000
	Improper investor education	11.9443	1.83091	395	395.000
	Expected return	7.6506	1.51623	395	395.000

Source: Survey data

From Table 6.17, it is evident that the factor Future risk has a higher mean value (35.0000) in the case of a High level Gold ETF investor than the medium (27.5983) and lower level (27.7206) investors. This data leads us to assume that a higher level Gold ETF investor considers Gold ETF as less risky investment avenue in the longer run. Even when considering other two factors the results remains unchanged. So it would be safe to state that the nature of an investor to choose an investment alternative on the basis of low risk-high return criteria gets fulfilled when he takes chances with Gold ETF's. This could be the impending reason why he makes a higher quantum of investment towards Gold ETF's when compared to his counterparts. The discriminating power of these factors are studied and analyzed in the later sections of this chapter.

Further, an attempt was made to check the significance of the difference in the means across three classifying groups. The result is given in Table 6.18

Table 6.18: Tests of Equality of Group Means of Economic factors

	Wilks' Lambda	F	df1	df2	Sig.
Future risk	0.119	1457.869	2	392	.000
Improper investor education	0.140	1207.263	2	392	.000
Expected return	0.279	507.706	2	392	.000

Source: Survey data

From Table 6.18, it can be seen that the means significantly differs ($p<.05$) among the three categories for all the factors. This shows that, there is difference among mean score for all the three factors of Economic factors among Gold ETF Investors with low, middle and High Level of

investment. From this, it is concluded that all the factors of Economic factors are having the discriminating ability.

Table 6.19 presents Eigen values indicating the proportion of variance explained by the First 2 canonical discriminant functions

Table 6.19: Eigen values of Economic factors

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	15.307[a]	100.0	100.0	0.969
2	.006[a]	.0	100.0	0.074

a. First 2 canonical discriminant functions were used in the analysis.

Source: Survey data

Table 6.20 displays the results of the statistical test of significance for Wilk's Lambda

Table 6.20: Wilk's Lambda of Economic factors

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1 through 2	0.061	1093.662	6	.000
2	0.995	2.149	2	0.341

Source: Survey data

As depicted in Table 6.19, with more than two groups, more than one discriminant function can be obtained. The Eigen value (15.307) indicates the proportion of variance explained by the first function. It explains 100% of the variance. The canonical correlation (0.969) is the correlation between the discriminant scores and the levels of dependent variable which was found to be positively correlated. The square of the

canonical correlation is 0.9389 and hence 94% of the variance in the discriminating model is due to the changes in the three factors of Economic factors. The significance of this discriminant function is tested by framing the following hypothesis.

Hypothesis:

H0: The variables considered here do not have the discriminating ability to distinguish a High Level Gold ETF Investor from Middle Level Gold ETF Investor and Low Level Gold ETF Investor.

H1: The variables considered here have the discriminating ability to distinguish a High Level Gold ETF Investor from Middle Level Gold ETF Investor and Low Level Gold ETF Investor.

The results of Table 6.20 shows that the statistical test of significance for Wilk's Lambda shows that the variables are significant ($p<0.05$). Hence the hypothesis is rejected and this discriminant function can be further used for explanations.

Tables 6.19 and 6.20 are also used to explain the second discriminant function. Accordingly, when we consider the second discriminant function, the Eigen value (0.006) indicates the proportion of variance explained by the second function. It explains 0% of the variance. The canonical correlation (0.074) is the correlation between the discriminant scores and the levels of dependent variable which was found to be positively correlated. The square of the canonical correlation is 0.005476 and hence 0.55% of the variance in the discriminating model is due to the changes in the three factors of Economic factors. The

significance of this discriminant function is tested by framing the following hypothesis.

Hypothesis:

H0: The variables considered here do not have the discriminating ability to distinguish a High Level Gold ETF Investor from Middle Level Gold ETF Investor and Low Level Gold ETF Investor.

H1: The variables considered here have the discriminating ability to distinguish a High Level Gold ETF Investor from Middle Level Gold ETF Investor and Low Level Gold ETF Investor.

The statistical test of significance for Wilk's Lambda shows that the variables are not significant ($p<0.05$). Hence the hypothesis is accepted and this discriminant function cannot be further used for explanations.

Table 6.21 depicts Standardized Canonical Discriminant Function Coefficients to measure the relative contribution of each of the predictor variable on the discriminant function.

Table 6.21: Standardized Canonical Discriminant Function Coefficients of Economic factors

	Function	
	1	2
Future risk	0.681	0-.733
Improper investor education	0.616	0.511
Expected return	0.327	0.454

Source: Survey data

Each Standardized Canonical Discriminant Function Coefficient in absolute values reflects the relative contribution of each of the predictor variable on the discriminant function. Here when first discriminant function is considered, it was found that Future Risk (0.681) is exerting more influence in discriminating between a High Level Gold ETF Investor to Middle Level Gold ETF Investor to Low Level Gold ETF Investor. It is followed by Improper Investor Education (0.616). The lowest discriminating power is shown by Expected Return (0.327).

Abstracting the essence of present study and results of Virlics, Agnes (2013), Kirti Arekar and C A Swati Godbole (2014), Manoj Kumar Dash (2010), Anil Suresh (2011), Maital et al. (1986), all highlighting the relevance of Risk in investment decision making, it could be safely stated that investors consider Risk as both an objective and subjective factor while assessing the consequences of the possible outcomes which would occur on fixing the respective quantum of investment towards Gold ETF's, at the time of investment decision making.

This result could be further cemented by the study findings of Awais et al. who shared that, the decisions of the investors depend upon the degree of the risk factors. Even though from the study of Malabika Deo and Vijayalakshmi Sundar (2015), the dividend attraction were identified as one of the eight most impelling factors on investment decisions of investors, in the present study the expected return from investment or dividend occupies a least position in discriminating a high level gold ETF investor to its counterparts, as the criterion "future risk" statistically and significantly influences the investment choices of investors on an even higher

magnitude. Therefore, it could be deducted that since Gold ETF's is known to be a less risky instrument, even after its crippling behavior of offering lower returns, investors tend to make huge investments towards this rather than to other alternative vehicles of investments.

Table 6.22 exhibits Canonical Discriminant Function Coefficients indicating unstandardized scores.

Table 6.22: Unstandardized Canonical Discriminant Function Coefficients of Economic factors

	Function	
	1	2
Future risk	0.591	-0.637
Improper investor education	0.899	0.745
Expected return	0.408	0.566
(Constant)	-31.208	5.461
Unstandardized coefficients		

Source: Survey data

The Canonical Discriminant Function Coefficients indicating the unstandardized scores of all the independent economic variables are shown in Table 6.22. It is the list of Coefficients of the unstandardized discriminant equation.

Function 1:

Gold ETF Investments = -31.208 + (0.591 FR) + (0.899 IIE) + (0.408 ER)

FR = FUTURE RISK **;** ***IIE*** = IMPROPER INVESTOR EDUCATION

ER = EXPECTED RETURN

Table 6.23 presents Unstandardized canonical discriminant functions evaluated at group means

Table 6.23: Functions of Economic factors at Group Centroids

ETF Investment Level	Function	
	1	2
Low	-2.204	-0.157
Medium	-2.151	0.046
High	7.023	-0.001

Unstandardized canonical discriminant functions evaluated at group means

Source: Survey data

Table 6.23 reveals the scores of discriminant functions evaluated at group means. In the case of first function, it can be interpreted that, High Level Gold ETF Investor have a mean of 7.023,for Middle Level Gold ETF Investor mean value is -2.151 and Low Level Gold ETF Investor have mean of -2.204. Since the first function explains 100% variance, it is more relevant. In the case of second function, it can be interpreted that, High Level Gold ETF Investor have a mean of -.001,for Middle Level Gold ETF Investor mean value is 0.046 and Low Level Gold ETF Investor have mean of -0.157

Separate-Groups Graphs

Fig. 6.11, 6.12 and 6.13 presents Canonical Discriminant functions of Gold ETF Investment at Lower, Medium and Higher levels respectively with respect to Economic factors.

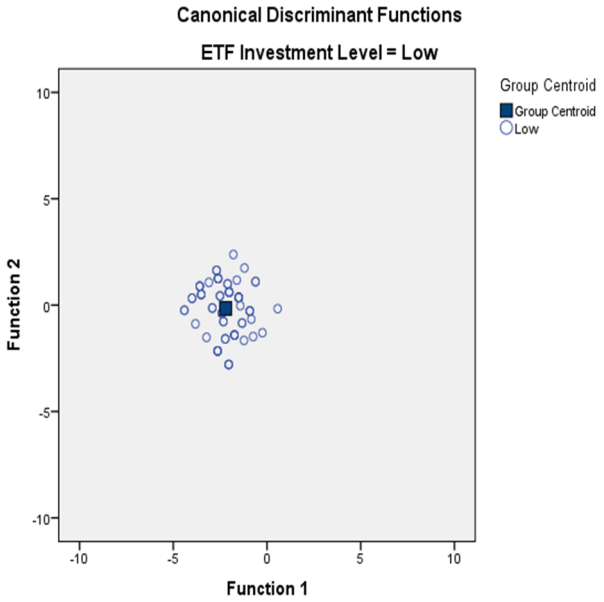


Fig. 6.11: Canonical Discriminant Function of Economic factors - Low ETF Investment level

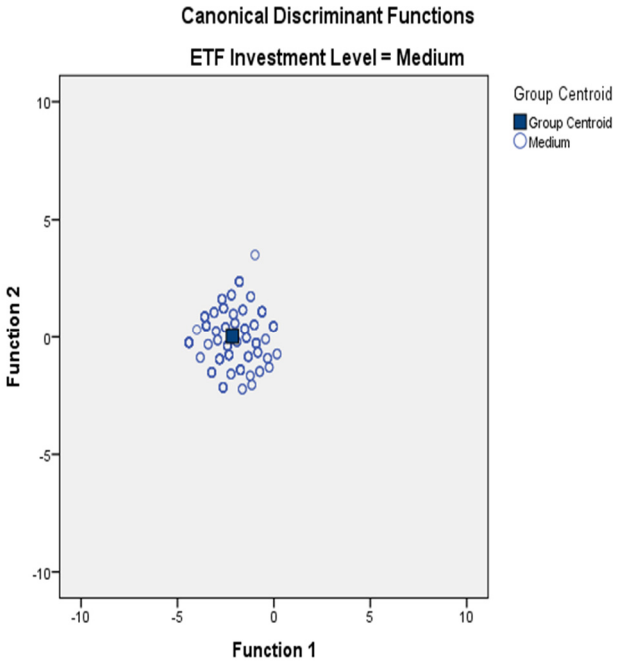


Fig. 6.12: Canonical Discriminant Function of Economic factors - Medium ETF Investment level

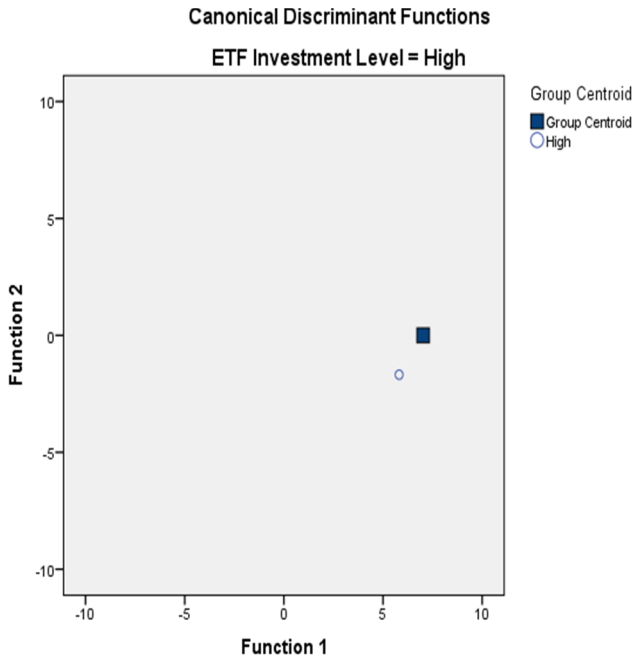


Fig. 6.13: Canonical Discriminant Function of Economic factors - High ETF Investment level

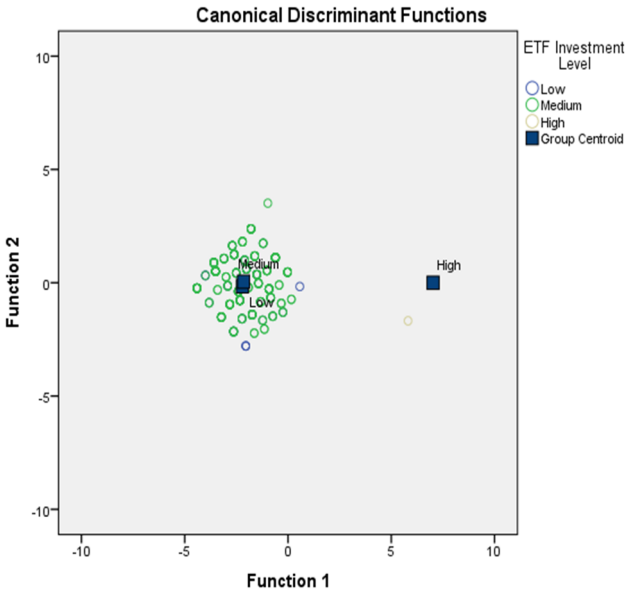


Fig. 6.14: Presents Canonical Discriminant functions of Gold ETF Investment at Lower, Medium and Higher levels simultaneously with respect to Economic factors

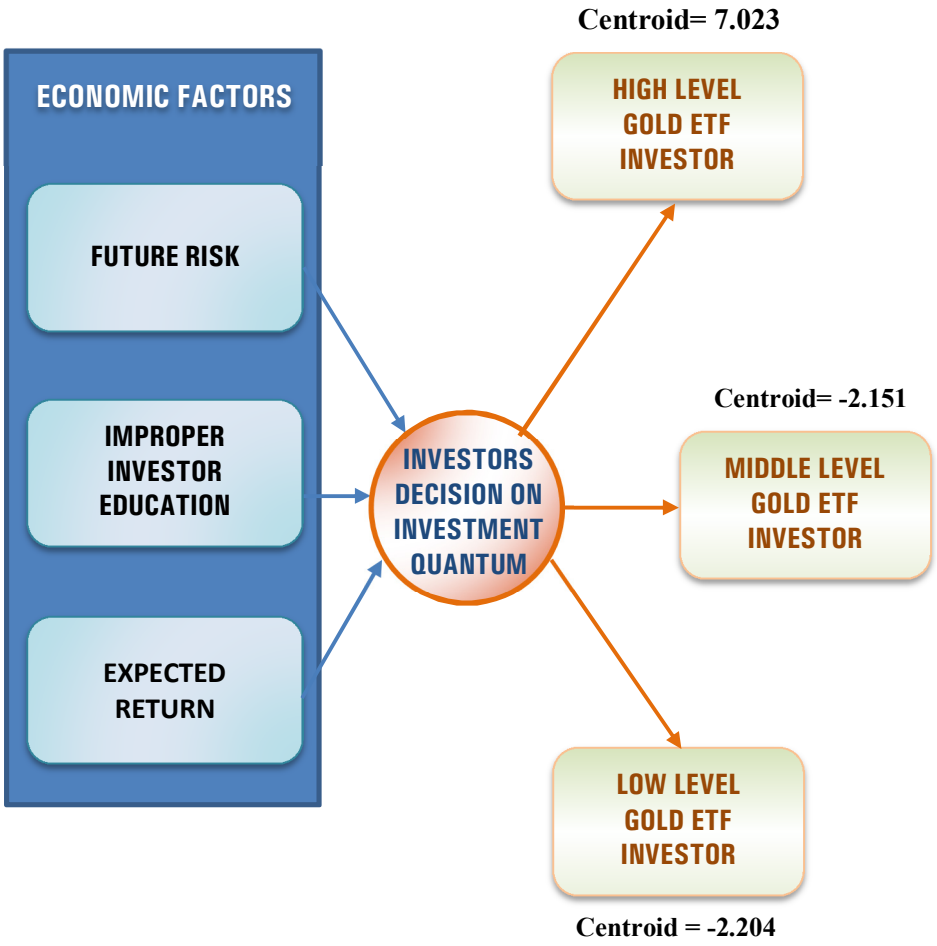


Fig. 6.15: Presents Discriminating function of Economic factors in discriminating a High Level Gold ETF Investor from Middle and Low Level Gold ETF Investor based on first function

6.5 Discriminating a High Level Gold ETF Investor from Middle Level Gold ETF Investor and Low Level Gold ETF Investor based on Technical factors:

The group statistics of the six factors contributing towards Technical factors which are taken to find out the discriminating ability are furnished in the Table 6.24. If the means of all the six variables are

considered along with the grouping variable, it is observed that, the means for High Level Gold ETF Investors is higher than the means of Low Level Gold ETF Investors and Middle Level Gold ETF Investors.

Table 6.24: The group statistics of the six factors contributing towards Technical factors

Table 6.24: Group Statistics of Technical factors

ETF Investment Level		Mean	Std. Deviation	Valid N (listwise)	
				Unweighted	Weighted
Low	Investment preference and knowledge	19.2059	1.17890	68	68.000
	Source of investment information	15.1912	1.05459	68	68.000
	Rational decision making attributes	11.0147	.81940	68	68.000
	Investment Perception	6.7647	.89971	68	68.000
	Business Environment	6.8529	.83335	68	68.000
	Source of investment diversification	6.9265	.86931	68	68.000
Medium	Investment preference and knowledge	19.3333	1.21507	234	234.000
	Source of investment information	15.0940	.99770	234	234.000
	Rational decision making attributes	10.9701	.78830	234	234.000
	Investment Perception	6.7735	.83125	234	234.000
	Business Environment	6.9103	.88166	234	234.000
	Source of investment diversification	6.9103	.91040	234	234.000
High	Investment preference and knowledge	24.9247	.72587	93	93.000
	Source of investment information	20.0000	.00000	93	93.000
	Rational decision making attributes	15.0000	.00000	93	93.000
	Investment Perception	10.0000	.00000	93	93.000
	Business Environment	10.0000	.00000	93	93.000
	Source of investment diversification	9.9570	.41478	93	93.000
Total	Investment preference and knowledge	20.6278	2.63339	395	395.000
	Source of investment information	16.2658	2.25477	395	395.000
	Rational decision making attributes	11.9266	1.84341	395	395.000
	Investment Perception	7.5316	1.55798	395	395.000
	Business Environment	7.6278	1.52167	395	395.000
	Source of investment diversification	7.6304	1.52645	395	395.000

Source: Survey data

Table 6.24 shows that the mean values of investment preference and knowledge are higher in the case of a high level gold ETF investor (24.9247) than a medium (19.3333) or low level (19.2059) investor. Similarly remaining five factors also have a higher mean value for a high investor than a medium or low level investor. This trend could be used to form a deductive basis that an investor who has knowledge concerning commodity derivatives, specifically Gold ETF's, tends to study it more and tries to include it in their portfolio by taking into notice of their beneficial aspects. Further investors who prefer unique, low risk portfolio baskets also picks up this alternative. Hence these reasons drive them to make a higher quantum of investments towards Gold ETF's differentiating them as a high level Gold ETF investor from others. The discriminating ability of these factors are discussed in the later parts of this Chapter.

An attempt was made to check the significance of the difference in the means across three classifying groups, the result of which is shown in Table 6.25

Table 6.25: Tests of Equality of Group Means of Technical factors

	Wilks' Lambda	**F**	**df1**	**df2**	**Sig.**
Investment preference and knowledge	.178	906.841	2	392	.000
Source of investment information	0.153	1085.155	2	392	.000
Rational decision making attributes	0.142	1186.782	2	392	.000
Investment Perception	0.225	674.904	2	392	.000
Business Environment	0.250	589.476	2	392	.000
Source of investment diversification	0.283	497.189	2	392	.000

Source: Survey data

From Table 6.25, it can be seen that the means significantly differs ($p<.05$) among the three categories for all the factors. This shows that, there is difference among mean score for all the six factors of Technical factors among Gold ETF Investors with low, middle and High Level of investment. From this, it is concluded that all the factors of Technical factors are having the discriminating ability.

Table 6.26 presents the Eigen values indicating the proportion of variance explained by the First 2 canonical discriminant functions

Table 6.26: Eigen values of Technical factors

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	20.661[a]	100.0	100.0	0.977
2	0.005[a]	.0	100.0	0.071

a. First 2 canonical discriminant functions were used in the analysis.

Source: Survey data

Table 6.27 presents the results of statistical test of significance for Wilk's Lambda

Table 6.27: Wilks' Lambda of Technical factors

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1 through 2	0.046	1199.858	12	.000
2	0.995	1.943	5	0.857

Source: Survey data

It is clear from Table 6.26 that, with more than two groups, more than one discriminant function can be obtained. The Eigen value (20.661)

indicates the proportion of variance explained by the first function. It explains 100% of the variance. The canonical correlation (0.977) is the correlation between the discriminant scores and the levels of dependent variable which was found to be positively correlated. The square of the canonical correlation is 0.955 and hence 96% of the variance in the discriminating model is due to the changes in the six factors of Technical factors. The significance of this discriminant function is tested by framing the following hypothesis.

Hypothesis:

H0: The variables considered here do not have the discriminating ability to distinguish a High Level Gold ETF Investor from Middle Level Gold ETF Investor and Low Level Gold ETF Investor.

H1: The variables considered here have the discriminating ability to distinguish a High Level Gold ETF Investor from Middle Level Gold ETF Investor and Low Level Gold ETF Investor.

The statistical test of significance for Wilk's Lambda, as depicted in Table 6.27, shows that the variables are significant ($p<0.05$). Hence the hypothesis is rejected and this discriminant function can be further used for explanations.

Tables 6.26 and 6.27 are used to explain second discriminant function as well. When we consider the second discriminant function, the Eigen value (0.005) indicates the proportion of variance explained by the

second function. It explains 0% of the variance. The canonical correlation (0.071) is the correlation between the discriminant scores and the levels of dependent variable which was found to be positively correlated. The square of the canonical correlation is 0.00504 and hence 0.50% of the variance in the discriminating model is due to the changes in the six factors of Technical factors. The significance of this discriminant function is tested by framing the following hypothesis.

Hypothesis:

H0: The variables considered here do not have the discriminating ability to distinguish a High Level Gold ETF Investor from Middle Level Gold ETF Investor and Low Level Gold ETF Investor.

H1: The variables considered here have the discriminating ability to distinguish a High Level Gold ETF Investor from Middle Level Gold ETF Investor and Low Level Gold ETF Investor.

The statistical test of significance for Wilk's Lambda shows that the variables are not significant ($p<0.05$). Hence the hypothesis is accepted and this discriminant function cannot be further used for explanations. Table 6.28 exhibits Standardized Canonical Discriminant Function Coefficients to measure the relative contribution of each of the predictor variable on the discriminant function

Table 6.28: Standardized Canonical Discriminant Function Coefficients of Technical factors

	Function	
	1	2
Investment preference and knowledge	0.425	0.659
Source of investment information	0.341	-0.629
Rational decision making attributes	0.435	-0.329
Investment Perception	0.340	0.173
Business Environment	0	.331
Source of investment diversification	0.299	-0.015

Source: Survey data

Each Standardized Canonical Discriminant Function Coefficient in absolute values reflects the relative contribution of each of the predictor variable on the discriminant function. Here when first discriminant function is considered, it was found that Rational Decision making Attributes (0.435) is exerting more influence in discriminating between a High Level Gold ETF Investor to Middle Level Gold ETF Investor to Low Level Gold ETF Investor. It is followed by Investment Preference and Knowledge (0.425). The lowest discriminating power is shown by Source of Investment Diversification (0.299).

Only a rational investor who analyzes the stock market and values the economic and monetary policies thoroughly can make a monumental leap to Gold ETF investments even under fluctuating

capital market scenario. This logical explanation to the analytical finding summarized here is, but, in contrast with the findings of Malabika Deo and Vijayalakshmi Sundar (2015) who found that Investment decisions are based on investor's psychology than on rational decision making.

Still supportive evidence to the present study findings are witnessed in the study conducted by Vinod K. Bhatnagar, S K. Shrivastava, and etal (2014)on "Investors Psychology towards Investment in Gold" where they demonstrated that there were seven elements like Preference and Selection, Good returns, Assortment and decrease risk, Substantial and higher return, Assessment, Persuade and Occasion which influence investors' psychology towards interest in Gold. The study further corroborates with the results of Awais etal who concluded that increased level of knowledge about financial information and the increased ability of analyzing that information, investor could improve the capacity to jump into risky investments for earning high returns by managing investment efficiently. This could be used to explain the reason why investment preference and knowledge came to a second major factor in discriminating a high level Gold ETF to a middle and low level investor.

Table 6.29 presents Canonical Discriminant Function Coefficients indicating Unstandardized scores

Table 6.29: Unstandardized Canonical Discriminant Function Coefficients of Technical factors

	Function	
	1	2
Investment preference and knowledge	0.382	0.592
Source of investment information	0.386	-0.711
Rational decision making attributes	0.626	-0.473
Investment Perception	0.459	0.234
Business Environment	0.492	0.435
Source of investment diversification	0.368	-0.018
(Constant)	-31.627	0.063
Unstandardized coefficients		

Source: Survey data

As depicted in Table 6.29, the Canonical Discriminant Function Coefficients indicated the unstandardized scores concerning the six independent technical variables. It is the list of Coefficients of the unstandardized discriminant equation written down below:

Function 1:

Gold ETF Investments = -31.627+ (0.382 IPK)+(0..386 SII)+(0.626 RDMA)+(0.459 IP)+(0.492 BE)+(0.368 SID)

IPK = INVESTMENT PREFERENCE AND KNOWLEDGE

SII = SOURCE OF INVESTMENT INFORMATION

RDMA = RATIONAL DECISION MAKING ATTRIBUTES

IP = INVESTMENT PERCEPTION

BE = BUSINESS ENVIRONMENT

SID = SOURCE OF INVESTMENT DIVERSIFICATION

Table 6.30 exhibits unstandardized canonical discriminant functions evaluated at group means

Table 6.30: Functions of Technical factors at Group Centroids

ETF Investment Level	Function	
	1	2
Low	-2.520	-.149
Medium	-2.511	.043
High	8.160	-9.774E-005

Unstandardized canonical discriminant functions evaluated at group means

Source: Survey data

From Table 6.30, in the case of first function, it can be interpreted that, High Level Gold ETF Investor have a mean of 8.160,for Middle Level Gold ETF Investor mean value is -2.511 and Low Level Gold ETF Investor have mean of -2.520. Since the first function explains 100% variance, it is more relevant. In the case of second function, it can be interpreted that, High Level Gold ETF Investor have a mean of -9.774E-005,for Middle Level Gold ETF Investor mean value is 0.043 and Low Level Gold ETF Investor have mean of -0.149.

Separate-Groups Graphs

Fig. 6.16, 6.17 and 6.18 presents Canonical Discriminant functions of Gold ETF Investment at Lower, Medium and Higher levels respectively with respect to Technical factors

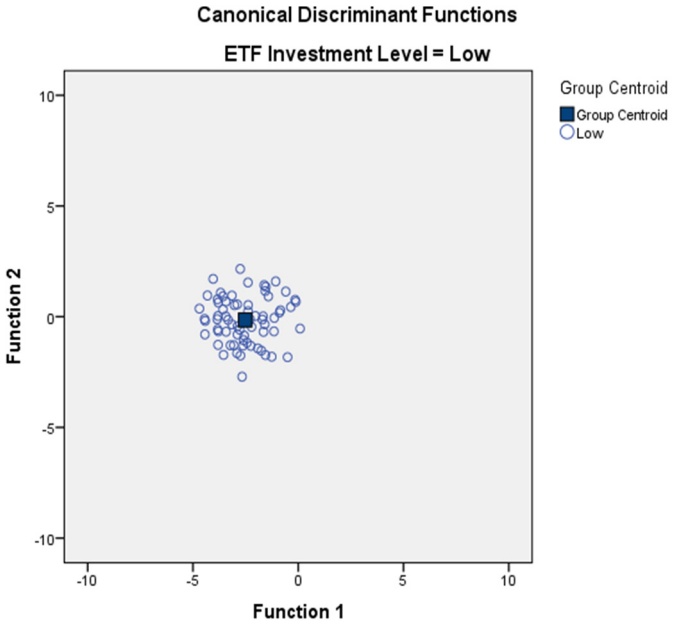


Fig. 6.16: Canonical Discriminant Function of Technical factors - Low ETF Investment level

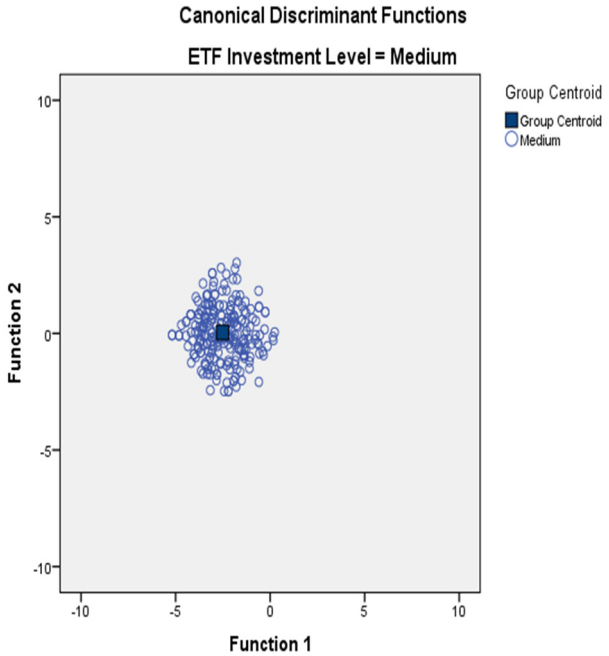


Fig. 6.17: Canonical Discriminant Function of Technical factors - Medium ETF Investment level

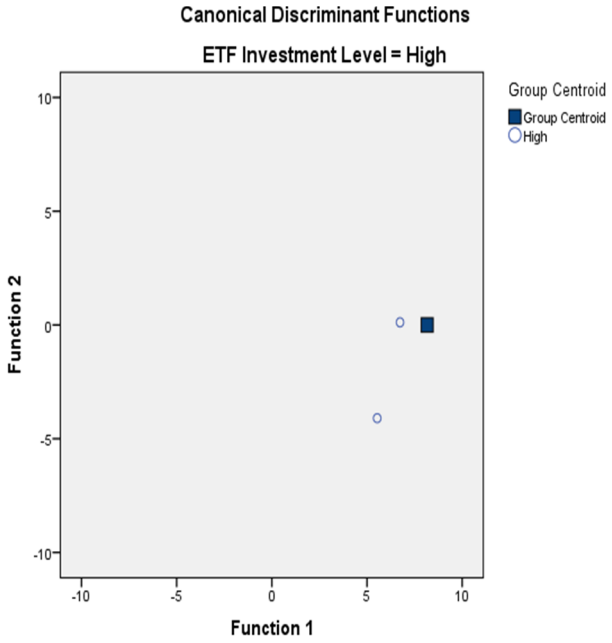


Fig. 6.18: Canonical Discriminant Function of Technical factors - High ETF Investment level

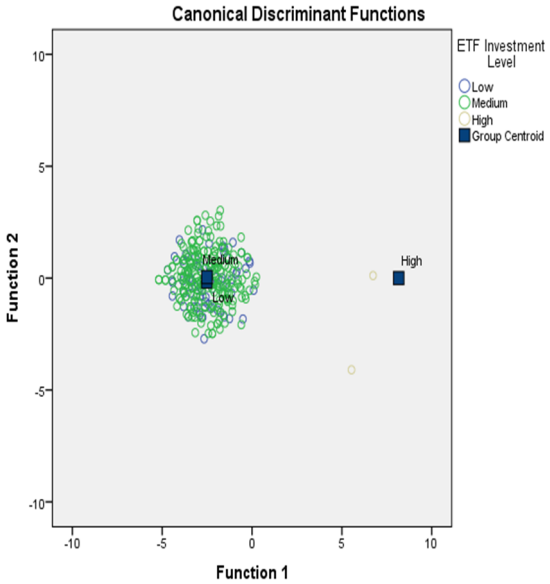


Fig. 6.19: Presents Canonical Discriminant functions of Gold ETF Investment at Lower, Medium and Higher levels simultaneously with respect to Technical factors

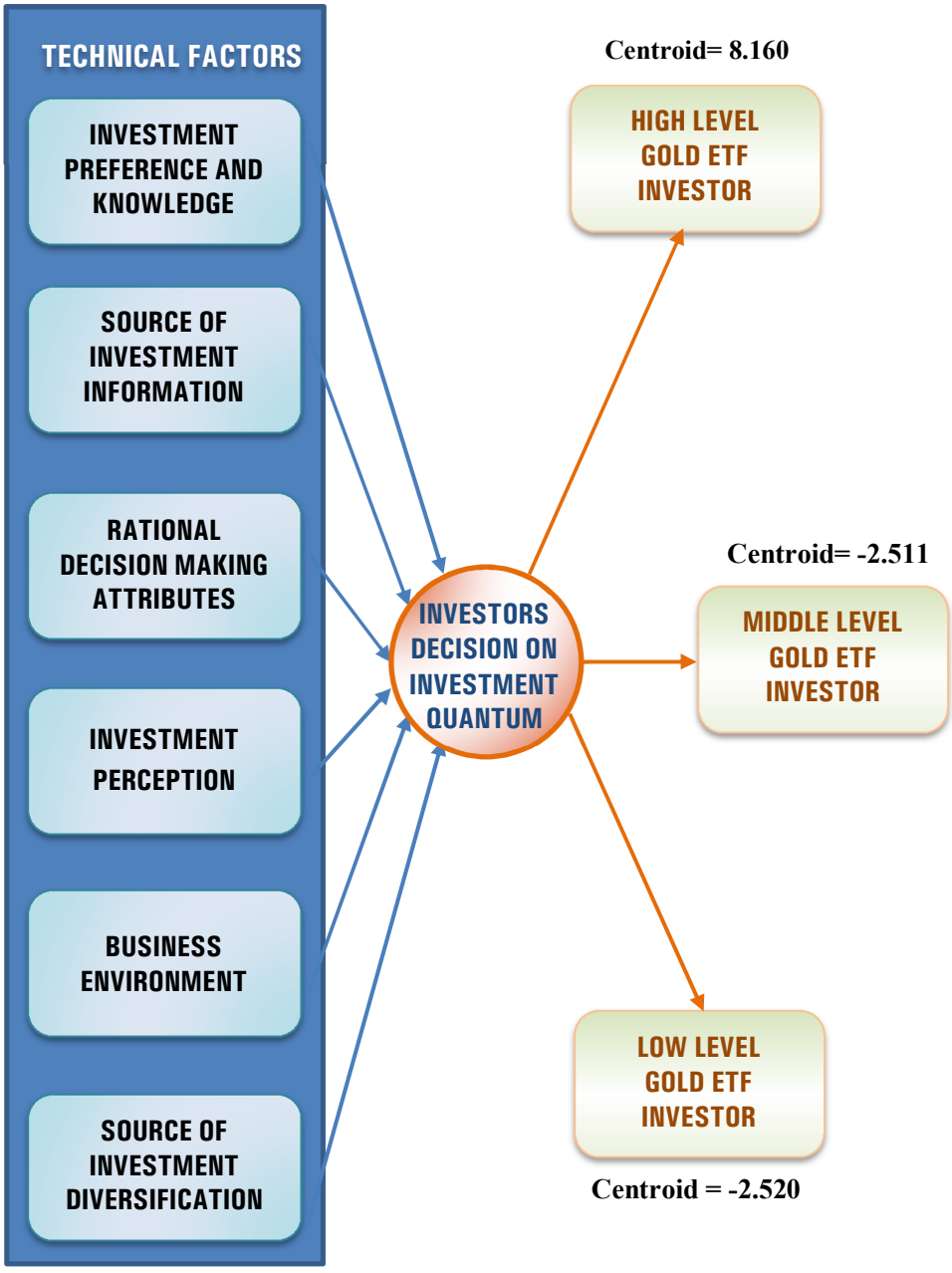


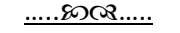
Fig. 6.20: Presents Discriminating function of Technical factors in discriminating High Level Gold ETF Investor from Middle and Low Level Gold ETF Investor based on first function

6.6 Deductive Conclusion

From Discriminant function analysis, it was found that the means for High Level Gold ETF Investors is higher than the means of Low Level Gold ETF Investors and Middle Level Gold ETF Investors in all the behavioural finance, social, economic and technical factors extracted. Further, analytical results with two discriminant functions, the former explaining almost 95% variance and latter with negligible proportion, confirm the fact that all the factors under study are having the discriminating ability. Since only minute percentage of variance are explained by second discriminant function, it is not been discussed below to explain the discriminating ability of extracted factors.

When first discriminant function is considered, to identify the discriminating ability among behavioural finance factors, it was found that Mental Accounting (0.465) is exerting more influence in discriminating between a High Level Gold ETF Investor to Middle Level Gold ETF Investor to Low Level Gold ETF Investor. It is followed by Over Confidence Bias (0.451). The lowest discriminating power is shown by Hindsight Bias (0.230). Among the social factors, it was found that Economic Growth (0.526) is exerting more influence in discriminating between a High Level Gold ETF Investor to Middle Level Gold ETF Investor to Low Level Gold ETF Investor. It is followed by Investment Expectation (0.486). The lowest discriminating power is shown by Awareness and Basic Needs (0.375).

Out of the economic factors, it was found that Future Risk (0.681) is exerting more influence in discriminating between a High Level Gold ETF Investor to Middle Level Gold ETF Investor to Low Level Gold ETF Investor. It is followed by Improper Investor Education (0.616). The lowest discriminating power is shown by Expected Return (0.327). When first discriminant function of Technical factors were considered, it was found that Rational Decision making Attributes (0.435) is exerting more influence in discriminating between a High Level Gold ETF Investor to Middle Level Gold ETF Investor to Low Level Gold ETF Investor. It is followed by Investment Preference and Knowledge (0.425). The lowest discriminating power is shown by Source of Investment Diversification (0.299).



Chapter 7

FINDINGS, SUGGESTIONS AND CONCLUSION

Contents

This chapter summarizes the findings of the study and suggests methods for improving the quantum of investment in Gold ETF investments. This chapter is organized under four parts. Part-1 provides the summary of findings in relation to the objectives and hypotheses tested. Part- 2 establishes the unique position of the study through Discussion. Part-3 provides suggestions to improve Gold ETF investment. Part- 4 narrates the conclusive statements and indicates the prospects for future research.

7.1 Findings in Relation to the Objectives and Hypotheses.

7.1.1 In relation to the Objectives

- **The first objective was to explore the behavioural finance factors influencing Gold Exchange Traded Funds Investment decisions of investors in Kerala**

The behavioural finance factors such as over confidence bias, herd behavior, mental accounting, representative bias, regret aversion, and hindsight bias were found to influence Gold Exchange Traded Funds Investment decisions of investors in Kerala

- **The second objective was to explore the social factors influencing Gold Exchange Traded Funds Investment decisions of investors in Kerala**

The social factors such as Motive for investment, Awareness and basic needs, Provisions of investment, Investment expectation, and Economic growth were found to influence Gold Exchange Traded Funds Investment decisions of investors in Kerala

- **The third objective was to explore the economic factors influencing Gold Exchange Traded Funds Investment decisions of investors in Kerala**

The economic factors such as Future Risk, Improper investor education and Expected return were found to influence Gold Exchange Traded Funds Investment decisions of investors in Kerala

- **The fourth objective was to explore the technical factors influencing Gold Exchange Traded Funds Investment decisions of investors in Kerala**

The technical factors such as Investment preference and knowledge, Source of investment information, Rational decision making attributes, Investment perception, Business environment (Political & Cultural) and Source of Investment diversification were found to influence Gold Exchange Traded Funds Investment decisions of investors in Kerala

- **The fifth objective was to find out the discriminating ability of these factors (behavioural finance, social, economic and technical) in distinguishing the quantum of investments.**

Behavioural Finance factors

When the means of all the six variables contributing towards Behavioural Finance were considered along with the grouping variable it was observed that the means for High Level Gold ETF Investors is higher than the means of Low Level and Middle Level Gold ETF Investors. From Tests of Equality of Group Means Table, it was found that all the factors of Behavioural Finance are having the discriminating ability. On estimating Standardized Canonical Discriminant Function Coefficient of the first discriminant function, it was found that Mental Accounting (0.465) is exerting more influence in discriminating between a High Level Gold ETF Investor and Middle Level and Low Level Gold ETF Investor. It is followed by Over Confidence Bias (0.451). The lowest

discriminating power is shown by Hindsight Bias (0.230). When the second discriminant function is considered, it was found that Mental Accounting (0.688) is exerting more influence in discriminating between a High Level Gold ETF Investor and Middle Level and Low Level Gold ETF Investor. It is followed by Hindsight Bias (0.474). Regret Aversion (0.028) is found to have the lowest discriminating ability in this function.

Social factors

When the means of all the five variables contributing towards Social factors were considered along with the grouping variable, it was observed that the means for High Level Gold ETF Investors is higher than the means of Low Level and Middle Level Gold ETF Investors. From Tests of Equality of Group Means Table it was found that all the Social factors are having the discriminating ability. When first discriminant function is considered to reflect Standardized Canonical Discriminant Function Coefficient in absolute value, it was found that Economic Growth (0.526) is exerting more influence in discriminating between a High Level Gold ETF Investor from Middle Level and Low Level Gold ETF Investor. It is followed by Investment Expectation (0.486). The lowest discriminating power is shown by Awareness and Basic Needs (0.375). When the second discriminant function is considered it was found that Provisions for Investment (0.823) is exerting more influence in discriminating between a High Level Gold ETF Investor from Middle Level and Low Level Gold ETF Investor. It is

followed by Investment Expectation (0.474). Economic Growth (0.117) is found to have the lowest discriminating ability in this function.

Economic factors

If the means of all the three variables contributing towards Economic factors were considered along with the grouping variable, it was observed that the means for High Level Gold ETF Investors is higher than the means of Low Level and Middle Level Gold ETF Investors. A test of Equality of Group Means Table performed proves that all the Economic factors are having the discriminating ability. While measuring the relative contribution of each of the predictor variable on first discriminant function (Standardized Canonical Discriminant Function Coefficient in absolute value), it was found that Future Risk (0.681) is exerting more influence in discriminating between a High Level Gold ETF Investor from Middle Level and Low Level Gold ETF Investor. It is followed by Improper Investor Education (0.616). The lowest discriminating power is shown by Expected Return (0.327). When the second discriminant function is considered it was found that Future Risk (0.733) is exerting more influence in discriminating between a High Level Gold ETF Investor from Middle and Low Level Gold ETF Investor. It is followed by Improper Investor Education (0.511). Expected Return (0.454) is found to have the lowest discriminating ability in this function.

Technical factors

The group statistics of the six factors contributing towards Technical factors which are taken to find out the discriminating ability confirms that the means for High Level Gold ETF Investors is higher than the means of Low Level and Middle Level Gold ETF Investors. Further, Tests of Equality of Group Means Table concludes that all the Technical factors are having the discriminating ability. Utilizing the concepts behind Standardized Canonical Discriminant Function Coefficient in absolute value, when first discriminant function was considered it was found that Rational Decision Making Attributes (0.435) are exerting more influence in discriminating between a High Level Gold ETF Investor from Middle Level and Low Level Gold ETF Investor. It is followed by Investment Preference and Knowledge (0.425). The lowest discriminating power is shown by Source of Investment Diversification (0.299). When the second discriminant function is considered it was found that Investment Preference and Knowledge (0.659) are exerting more influence in discriminating between a High Level Gold ETF Investor from Middle Level and Low Level Gold ETF Investor. It is followed by Source of Investment Information (0.629). Source of Investment Diversification (0.015) is found to have the lowest discriminating ability in this function.

7.1.2 In relation to Hypotheses

A Hypothesis based on Behavioural finance factors:

H0: The variables such as over confidence bias, herd behavior, mental accounting, representative bias, regret aversion, and hindsight bias considered here do not have the discriminating ability to distinguish a High Level Gold ETF Investor to Middle Level Gold ETF Investor to Low Level Gold ETF Investor.

H1: The variables such as over confidence bias, herd behavior, mental accounting, representative bias, regret aversion, and hindsight bias considered here have the discriminating ability to distinguish a High Level Gold ETF Investor from Middle Level Gold ETF Investor o and Low Level Gold ETF Investor

With more than two groups, more than one discriminant function can be obtained. The Eigen value (22.669) indicates the proportion of variance explained by the first function. It explains 100% of the variance. The canonical correlation (0.979) is the correlation between the discriminant scores and the levels of dependent variable which was found to be positively correlated. The square of the canonical correlation is 0.958 and hence 96% of the variance in the discriminating model is due to the changes in the six factors of behavioral finance. The statistical test of significance for Wilk's Lambda was carried and found to be significant ($p<0.05$). Hence the above stated hypothesis is rejected and this discriminant function can be further used for explanations.

B Hypothesis based on Social factors:

H0: The variables such as Motive for investment, Awareness and basic needs, Provisions of investment, Investment expectation, and Economic growth considered here do not have the discriminating ability to distinguish a High Level Gold ETF Investor from Middle Level Gold ETF Investor and Low Level Gold ETF Investor.

H1: The variables such as Motive for investment, Awareness and basic needs, Provisions of investment, Investment expectation, and Economic growth considered here have the discriminating ability to distinguish a High Level Gold ETF Investor from Middle Level Gold ETF Investor and Low Level Gold ETF Investor

With more than two groups, more than one discriminant function can be obtained. The Eigen value (26.322) indicates the proportion of variance explained by the first function. It explains 100% of the variance. The canonical correlation (0.982) is the correlation between the discriminant scores and the levels of dependent variable which was found to be positively correlated. The square of the canonical correlation is 0.964 and hence 96% of the variance in the discriminating model is due to the changes in the five factors of Social factors. The statistical test of significance for Wilk's Lambda was carried and found to be significant ($p<0.05$). Hence the above stated hypothesis is rejected and this discriminant function can be further used for explanations.

C Hypothesis based on Economic factors:

H0: The variables such as Future Risk, Improper investor education and Expected return considered here do not have the discriminating ability to distinguish a High Level Gold ETF Investor from Middle Level Gold ETF Investor and Low Level Gold ETF Investor.

H1: The variables such as Future Risk, Improper investor education and Expected return considered here have the discriminating ability to distinguish a High Level Gold ETF Investor to Middle Level Gold ETF Investor to and Low Level Gold ETF Investor

With more than two groups, more than one discriminant function can be obtained. The Eigen value (15.307) indicates the proportion of variance explained by the first function. It explains 100% of the variance. The canonical correlation (0.969) is the correlation between the discriminant scores and the levels of dependent variable which was found to be positively correlated. The square of the canonical correlation is 0.9389 and hence 94% of the variance in the discriminating model is due to the changes in the three factors of Economic factors. The statistical test of significance for Wilk's Lambda was carried and found to be significant ($p<0.05$). Hence the above stated hypothesis is rejected and this discriminant function can be further used for explanations.

D Hypothesis based on Technical factors:

H0: The variables such as Investment preference and knowledge, Source of investment information, Rational decision making attributes, Investment perception, Business environment (Political & Cultural) and Source of Investment diversification considered here do not have the discriminating ability to distinguish a High Level Gold ETF Investor from Middle Level Gold ETF Investor and Low Level Gold ETF Investor.

H1: The variables such as Investment preference and knowledge, Source of investment information, Rational decision making attributes, Investment perception, Business environment (Political & Cultural) and Source of Investment diversification considered here have the discriminating ability to distinguish a High Level Gold ETF Investor from Middle Level Gold ETF Investor to and Low Level Gold ETF Investor

With more than two groups, more than one discriminant function can be obtained. The Eigen value (20.661) indicates the proportion of variance explained by the first function. It explains 100% of the variance. The canonical correlation (0.977) is the correlation between the discriminant scores and the levels of dependent variable which was found to be positively correlated. The square of the canonical correlation is 0.955 and hence 96% of the variance in the discriminating model is due to the changes in the six factors of Technical factors. The significance of this discriminant function is tested by framing the following hypothesis. The statistical test of significance for Wilk's Lambda was carried and found to

be significant ($p<0.05$). Hence the above stated hypothesis is rejected and this discriminant function can be further used for explanations.

7.2 Discussion

7.2.1 Based on socio economic/ demographic profile and study results

Barber and Odean (2001) show that young men are more confident in their investing abilities than are older women. But the present study shows that investors within the age group 40-60 tend to make more investments than the relatively smaller age groups. Also according to this study, there is no association between gender and level of investment. These two findings therefore contradict the results of Barber and Odean (2001).

The results of Hallahan, Faff and McKenzie (2003) show that education, marital status and dependents, were not found to be significant determinants of an individual's attitude towards risk. Similarly in the present study, irrespective of education or marital status the investors tend to make high, medium and low contribution to Gold ETF investments.

Grable **(2000)** states that risk tolerance was associated with being male, older, married, professionally employed with higher incomes, more education, more financial knowledge, and increased economic expectations. The present study findings contradicts with this finding by stating that there is no association between gender, marital status, education, occupation and monthly income and level of ETF investments. Irrespective of their demographic status investors make high, medium and low contribution towards Gold ETF's concluding that their being male, married, educated and

professionally placed with higher income status has nothing to do with their risk taking or investment deciding attitude in this context.

Murphy and Soutar (2003) have proved that majority of individual investors have less interest in Speculation and are long-term investors, allegedly pointing to the fact they may be conservational investors rather than bold investors. But in the present study, the investors were found to identify their source of investment from both own funds and borrowed funds, clearly depicting their willingness to take risks. Moreover, trading proportions indicated that they were confident and strong players in the Derivatives Market.

The findings of the present study contradicts with the study conducted by **Lewellen, Lease and Schlarbaum (1977)** in stating the family size and dependents play a major decisive role in investing in securities market. In the present study, there are is no association found between family size and level of ETF investments.

7.2.2 Based on Behavioural Finance theories and Study results:

Further, some of my observations are not validated against established facts and theories owing to lack of relevant literature in this regard. These include

The findings of the present study corroborates with the concept of Mental Accounting put forth by Kahneman and Tversky in the fact that 45% of the investors under study decided to divide their investments between a safe investment portfolio and a speculative portfolio in order to prevent the negative returns that speculative investments may have from affecting the entire portfolio.

The Herd behavior, which were one of the key components under Behavioural Finance theory were also found to be relevant in the findings of my study. 50% of the investors, on realizing their faulty strategies in Gold ETF investments, were willing to just follow what others did, in Gold Exchange Market. The main impetus that appeared to propel these speculators to sink their cash into such a questionable endeavor was the consolation they got from seeing such a large number of others do a similar thing.

Among the investors 44% of them opined that they are confident enough about their strategy and ETF market, and are willing to wait through the lows of Gold Exchange Market even at higher costs, confidently expecting a future high, clearly depicting a clear case of falling prey to Over Confidence Bias. In the present study it was further found that for investors, the Hindsight bias was the cause for this most potentially dangerous mindsets that an investor or trader can have: overconfidence. In this case, overconfidence refers to investors' or traders' unfounded belief that they possess superior stock-picking abilities.

Of the total respondents, 28% of them mentioned that they usually arrive at an investment diversification conclusion based on the facts that suggest (represent) it without delving deeper into it, the phenomena being quoted under Representative Bias by Kahneman and Tversky.

Also, investor's reluctance to sell losing investments to avoid confronting the fact that they have made poor decisions were also a clear depiction of Regret Aversion Bias as explained under the concepts and dimensions of Behavioural Finance.

7.3 Suggestions

7.3.1 Specific to making high quantum Gold ETF Investments

1) Commodity derivatives including Gold tend to possess a higher fluctuating value than other portfolio securities. This volatility of Gold makes it a risky avenue and hence only after careful study should it be considered for higher quantum of investment

2) Risk-return trade off of Gold ETF's, need to be scrutinized for ensuring its beneficial aspects.

3) Arrangement of speculator can be made guarded by including gold assets amid portfolio development.

4) Gold ETF's has its significance as a foreign exchange medium aiding in overcoming inflation of a country. This could be considered as a favourable note towards prompting low level and moderate level investors to making high quantum investments.

5) The predictive analytical model proposed in the study,based on the discriminating ability of behavioural finance, social, economic and technical factors in distinguishing a Gold ETF investor into High, Medium and Low level, could be used in capitalizing Gold ETF investors for futuristic business by industries involved in this sector.

7.3.2 Specific to overcoming Behavioural biases to ensure making bold Gold ETF investments

1. Mental Accounting: The key point to consider for mental bookkeeping is that cash is tradable. Investors ought to understand that setting aside extra cash in a low-or no-premium record is unproductive on the off chance that despite everything they have exceptional obligation. Much of the time, the enthusiasm on their obligation will dissolve any premium that they can acquire in many bank accounts. While having investment funds is imperative, once in a while it bodes well to do without ones reserve funds so as to satisfy obligation.

2. Herd Behaviour: While it's enticing to pursue the most up to date speculation slants, a financial specialist is commonly happier avoiding the crowd. Because everybody is hopping on a specific venture vehicle, doesn't really mean the procedure is right. Subsequently, it ought to dependably be recollected that the speculation's high qualities are typically founded on idealism and not on the basic essentials.

3. Overconfidence Bias: Indeed, even the expert reserve directors, who approach the best speculation/industry reports and computational models in the business, can in any case battle at accomplishing market-beating returns. Hence the financial specialists ought to never be careless of their system embraced as every speculation day introduces another arrangement of difficulties and that venture procedures continually require refining.

4. Representative Bias: Despite the fact that agent inclination is frequently valuable to settle on the procedure of basic leadership less demanding, there is the possibility of reaching incorrectly inferences by wrongly extrapolating the accessible money related information of the stock. Accordingly a speculator ought to never overestimate the capacity of this heuristic to foresee the probability of occasions.

5. Hindsight Bias: Knowing the past predisposition makes the past look more unsurprising than it truly was. Speculators, thus ought to never pass judgment on the nature of exchanges utilizing all the data accessible today, rather they should reevaluate whether their exchange was a decent choice, in light of the data accessible in those days.

6. Regret Aversion Bias: Lament abhorrence positions a financial specialist in a situation where he/she would turn out to be progressively traditionalist, inciting them to bashful away, unduly, from business sectors when its low, enticing them to stick onto losing positions for a really long time or making an attitude to put just in emotionally assigned great organizations, notwithstanding when an elective stock has an equivalent or a higher anticipated restore, all of which clears the way towards crowding conduct.

7. By understanding the normal conduct botches speculators make, quality money related organizer will mean to enable customers to remove the feeling from contributing by making a strategic, vital venture plan including Systematic Asset Allocation or hazard relief,

tweaked to the person. Consequently the help of a monetary organizer while conspiring for portfolio broadening will help pooling the Gold ETF Investments.

8. The most essential part of conduct fund is genuine feelings of serenity. By having an intensive comprehension of hazard hunger, the reason for Gold ETF speculation and the execution plan of procedure, it enables the financial specialists to feel significantly more certain about venture plan and be less inclined to commit basic conduct errors.

9. Working with a monetary organizer can enable speculators to perceive and comprehend their own individual conduct inclinations and biases, and in this manner have the capacity to abstain from settling on venture choices dependent on those predispositions.

7.4 Conclusion and Scope for Future Research

The conclusive statements of the study and pointers for future research are written in this final part.

7.4.1 Conclusion

In India, Gold ETFs were launched mainly with the objective of increasing the liquidity for the better market efficiency. Among the major reasons behind gold forming an important part of all portfolios are out of control government spending with budget and trade deficits, negative real interest rates, tremendous financial market leverage coupled with misallocated capital, continual importation of deflation, killing pricing power and jobs, rising demand while production is declining; a negative

beta of gold which should offset times when stocks decline; war environment which has historically been very inflationary; out of control financial derivatives and hiding huge financial failures; energy prices hitting all-time highs as well as many other commodities; the relative size of the gold market being tiny with the bulk of inflows yet to come; shift of the biggest growers and savers (Asians) already moving into gold; huge short positions in gold and silver that may not be possible to cover; and exacerbating money printing due to waning in foreign buying of US debt. Identifying the magnitude impact of these reasons, Gold ETF's are now gaining a wider popularity globally.

In the current market scenario, it is widely acknowledged that the launch of gold [exchange-traded products] has had a very significant impact on the gold market and is now a key part of it. Still a lion's shares of investors are unaware of this potential avenue and are least bothered to capitalize this market. This trend is mostly witnessed in investors from Kerala where a major portion of investors prefer to invest in physical gold. But limited studies are available to properly understand the reasons behind this action. Hence an attempt to frame an evaluative record of the behavioral finance, socio-economic and technical attributes that influences the decision making of investors, specifically those of Kerala, while making Gold ETF investments were conducted to help fill the gaps where surety is not established in determining how far these factors contribute in driving the investors to make an investment decision towards this particular alternative.

Accordingly, the results of present study shows that the **Behavioural Finance factors** such as over confidence bias, herd behavior, mental accounting, representative bias, regret aversion, and hindsight bias ; **Social factors** such as motive for investment, awareness and basic needs, provisions of investment, investment expectation, and economic growth; **Economic factors** such as future risk, improper investor education and expected return and **Technical factors** such as investment preference and knowledge, source of investment information, rational decision making attributes, investment perception, business environment(political & cultural) and source of investment diversification have a discriminating ability to distinguish a high level Gold ETF investor from a moderate level and low level Gold ETF investor. Also, factors **mental accounting, economic growth, future risk and rational decision making attributes** is exerting more influence in discriminating a High Level Gold ETF Investor from a Middle Level Gold ETF Investor and Low Level Gold ETF Investor.

Further, the study maintains its unique position by offering a predictive analytic model, based on the discriminating ability of behavioural finance, social, economic and technical factors in distinguishing a Gold ETF investor into High, Medium and Low level, which could be used in capitalizing Gold ETF investors for futuristic business. The study being first of its kind in making a thorough analysis of this trend in the context of an emerging economy could further be used as a reference to deciding the applicability of non-conventional financial and economic theories governing investment decisions.

7.4.2 Scope for Further Research

The present study is primarily focused on identifying the factors influencing Gold Exchange Traded Fund investment decisions. But while amassing information for the aforesaid, it was clearly noticed that a wider gap exists in literature with respect to studies relating risk-return analysis of Gold ETF's alone, performance of Gold ETF's over a particular time frame when compared to other potential investment alternatives, how would an investor respond to an inverse or leveraged ETF under circumstances of market crash, and so on. Further, I could not neglect the fact that only a few studies are targeted towards investors, specifically of Kerala region in this context. Also, only four criterias namely behavioural finance, social, economic and technical factors, were analyzed for the present study to establish a discriminating power of these factors in discriminating a high level to medium level and low level investor in making Gold ETF investments. Several other criterias of relevance still remains unexplored. Secondary data could be made use of to provide feasible indicators to investment dimensions.

Human mind is an intricate combination of physique and emotions and its working principles and ways are still unknown to deliver explanations to human actions. A humble attempt was made in this study to understand the complexities of decision making in investors. If an understanding to this regard were resulted from this attempt, then the many sleepless nights and tiresome committed works dedicated to achieving this objective would not have been in vain.

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Annexures

ANNEXURE 1

QUESTIONNAIRE

Dear Prospective Participant

Let me thank you for accepting to participate in this survey. The survey is prepared and administered as a part of my research on **A Study on Behavioural Finance, Socio Economic and Technical Factors Influencing Gold Exchange Traded Fund (ETF) Investment Decisions in Kerala.** The following questionnaire is designed to define the profiles of individual Gold ETF investors and the socio-economic technical factors influencing their Gold ETF investment decision. The questionnaire is also used to perform a behavioural finance analysis of Gold ETF investors in examining their quantum of investment in Kerala. Therefore, you are requested to fill out the following questionnaire as precisely and accurately as you can. The results will be used for a general assessment and your answers will be used only for this study confidentially.

Sheeba K.H (Research Scholar)

Section 1

Factors pertaining to Gold ETF investment decision

This section includes questions to identify the socio-economic and technical factors influencing the Gold ETF investment decision. It is also used to perform a behavioural finance analysis of Gold ETF investors in examining their quantum of investment in Kerala.

I Socio Economic and Technical Factors Influencing Gold ETF Investment

Write your opinions about the statements below

Please read each statement carefully and rate each statement according to the scale below to indicate how much you agree with them. **1=I strongly agree, 2=I agree, 3=Undecided, 4=I disagree, 5=I definitely disagree.** ***Assumption: Investment pertains specifically to Gold ETF Investment and Investor pertains specifically to a Gold ETF Investor***

Sl. No	Sub scale/ Variables	SDA 1	A 2	UD 3	DA 4	SA 5
(i)	**Gold ETF Investment Sources (A) / Preferences, Duration (B) / Information Tracking, Knowledge And Awareness Level of Investors (C)**					
A1	My family structure affect my investment decisions					
A2	My social environment affect my investment decisions					
A3	I consider my past investment experiences while taking investment decisions					
A4	Government policies (contributions, tax reductions etc.) affect my behaviour in a positive way					
A5	My religious views affect my investment decisions					
A6	My political views affect my investment decisions					
A7	I am influenced by expert (consumer or investment representatives) decisions while taking investment decisions					

A8	I am influenced by other well wishers decisions while taking investment decisions					
A9	I take suggestion from peers while making investments					
A10	I take Suggestion from relatives before investments					
A11	I take Suggestion from financial advisor before investments					
B1	I prefer long term Gold ETF investments (more than 5 years) rather than short term investments					
B2	I prefer traditional investment avenues (real estate, gold etc.)					
B3	I prefer less risky investment avenues (bank deposit, bond, etc.) to risky investment tools (stock certificate,gold ETF etc.)					
B4	I prefer short term (2-5 years) Gold ETF investments					
C1	I have sufficient information regarding investment tools					
C2	I tend to reduce risk through portfolio diversification(diversifying investments in varied investment avenues)					
C3	Publications with financial content presented with means of communication like internet positively influence my investor behaviour					
C4	Publications with financial content presented with means of communication like media positively influence my investor behaviour					

C5	I have good knowledge of investment plans					
C6	I have good knowledge of financial planning					
C7	I closely follow investment tools' performance of return					
C8	I have high level of self confidence in my investment decisions					
(ii)	**Motive For Gold ETF Investment**					
1	I invest to meet my family needs in future					
2	I invest to meet emergency needs					
3	I invest to live a safe life					
4	I invest to live a secure life					
5	Capital growth is the reason for my investment					
6	I invest only in those assets that are risk free					
7	Protection from inflation is reason for my investment					
8	I invest to take advantage of tax benefits					
9	Risk coverage is reason for my investment					
10	I purchase gold ETF because gold has a leverage which other investments lack					
11	I purchase gold ETF because gold has a trade value which other investments lack					
12	I invest to save for my retirement					

13	I save to meet future social obligations					
14	I purchase gold ETF during festivals					
15	I purchase gold ETF as a provision for children's marriage					
16	I purchase gold ETF as it gives sense of pride /prestige / status symbol					
17	I purchase gold as i don't know what is gold mutual fund					
18	I purchase gold as i don't know what is gold ETF					
19	Gold price is important while buying Gold					
20	Increase in income level raises my interest in financial instruments					
(iii)	**Belief On Gold And Gold ETF Risk Coverage And Economic Stability**					
1	I believe purchase of gold through mutual fund/ ET is risky because I cannot see the gold you purchased in your hand					
2	I believe purchase of gold through mutual fund/ ET is risky because there is a possibility of decrease in the value of investment due to the stock market fluctuation.					
3	I believe purchase of gold through mutual fund/ ET is risky because I do not understand the stock market					
4	I believe purchase of gold through mutual fund/ ET is risky because i am unaware about the stock market conditions					

5	I believe purchase of gold in physical form (Coins, bars rings etc) is risky due the possibility of theft.					
6	I believe purchase of gold in physical form (Coins, bars rings etc) is risky due to the resale value/ price issue.					
7	I believe purchase of gold in physical form (Coins, bars rings etc) is risky because there is a possibility of decrease in the value due the market fluctuations.					
8	I believe purchase of gold in physical form (Coins, bars rings etc) is risky because of decrease in the resale value due to the making charges					
9	Economic stability is a key element effecting my investment decisions					
10	Increase in income level raises my interest on financial instruments					
11	My income level effect the maturity date of the investments I make					
12	I believe purchase of gold ETF is like investing in an instrument that will give at least 15-20% returns					
13	I assume value of gold has not decreased for long time so it is beneficial investment					
14	I believe Gold ETF is an investment vehicle which provides financial security					
15	I make Gold ETF decisions based on financial market analysis					

II Behavioural Finance Approach to Gold ETF Investment

Write your opinions about the statements below

Please read each statement carefully and rate each statement according to the scale below to indicate how much you agree with them. **1=I strongly disagree, 2=I disagree, 3=Not decided, 4=I agree, 5=I strongly agree.** ***Assumption: Investment pertains specifically to Gold ETF Investment and Investor pertains specifically to a Gold ETF Investor***

Sl. No	Sub scale/ Variables	SDA 1	DA 2	ND 3	A 4	SA 5
1	I am confident of my ability to do better than the others in stock picking					
2	My past investment successes were above all, due to my specific skills and experience					
3	I have complete knowledge about investment avenues and can realize the movements in the market					
4	I feel satisfied with my investment decisions in the past					
5	Before the investment decision I evaluate the past price movements to predict the future price (Technical analysis)					
6	I strongly believe the current performance of Gold ETF is an indicator for future performance					
7	While going for an investment decision, I will go through the recommendations given by famous analyst					

8	If I hear views from my famous analyst that conflicts with my opinion about my investments in Gold ETF, I would change my opinion completely					
9	News about the Company in (newspapers, magazines) affect my investment decision					
10	I seek the opinion from my friends and colleagues					
11	During the time of bearish market, I borrow money to invest into the market					
12	I will book profits in a winning Gold ETF avenue and then felt I could have waited					
13	I will hold losing stock for too long expecting trend reversal					
14	I do have habit of purchasing lottery tickets					
15	I invest only on diversified portfolio					
16	My investment is based on time horizon					
17	I invest for my retirement in savings					
18	I invest on specific sectors					

Section 2

Investment Attributes

The following questions are used to analyze the Gold ETF investment pattern by ranking the alternatives based on proportion of investment and determining the approximate size and trading volume per month towards Gold ETF investment by investors.

III INVESTMENT PATTERN

1. Sate the various Investments in your portfolio

Sl. No	**Investments**	**Rank ()**	**Approximate size of Investment as on date**	**Trading Volume per month (approximate)**
INVESTMENT ALTERNATIVE				
A	Gold ETF			
B	Debentures/Bonds			
C	Stock Futures and Options			
D	Mutual Funds			
E	National Saving Certificate/ Public Provident Fund/ Provident Fund			
F	Fixed Deposits			
G	Insurance Polices			
H	Real Estate			
I	Shares			
J	Others(Gold/Silver, Post office, etc)			

Section 3

Demographic Profile

The following questions are designed to define the profiles of individual Gold ETF investors

IV

	Sex	**Marital Status**	**House Ownership**
Traits	Male	Married	Own
	Female	Unmarried	Rented/Leased

V

Age	**20-29**	**30-39**	**40-60**	**Above 60**
Educational Background	School Education	College Education	Professional	Others, Specify
Occupation/Profession	Salaried	Professional	Business	Others, Specify
Family Size	Less than 4	4-6	6-8	Above 8
No. of Earning members	1	2	3	4 & above
Monthly Income	Up to ₹ 20,000	₹ 20,001 - 40,000	₹40,001 - 60,000	Above ₹ 60,000
Experience in the market/trading (in years)	0-5	6-10	11-15	16-20

VI State the source of investment:

Own savings Borrowings Both

Thank You for your time and patience

ANNEXURE II

NOTES

I Statistical Tools Employed

Descriptive / Group Statistics

The group statistics of the factors contributing towards Behavioural Finance, Social, Economic and Technical which are taken to find out the discriminating ability are identified. If the means of all the variables are considered along with the grouping variable, it is observed that, the means for High Level Gold ETF Investors is higher than the means of Low Level Gold ETF Investors and Middle Level Gold ETF Investors in all the above factors.

Exploratory Factor Analysis

Factor Analysis is a method of data reduction. It does this by seeking underlying unobservable (latent) variables that are reflected in the observed variables (manifest variables). There are many different methods that can be used to conduct a factor analysis (such as principal axis factor, maximum likelihood, generalized least squares, unweighted least squares). There are also many different types of rotations that can be done after the initial extraction of factors, including orthogonal rotations, such as varimax and equimax, which impose the restriction that the factors cannot be correlated, and oblique rotations, such as promax, which allow the factors to be correlated with one another. Here, the extraction method used is Principal Component Analysis and Rotation used is Varimax with Kaiser Normalization. Factor Analysis is a technique that

requires a large sample size. Factor analysis is based on the correlation matrix of the variables involved, and correlations usually need a large sample size before they stabilize. Tabachnick and Fidell (2001) cite Corney and Lee's(1992) advice regarding sample size: 50 cases is very poor, 100 is poor, 200 is fair, 300 is good, 500 is very good and 1000 or more is excellent. As a rule of thumb, a bare minimum of 10 observations per variable is necessary to avoid computational difficulties. Here, a total of 395 samples were used for analysis.

Discriminant Function Analysis

According to (Klecka, 1980) Discriminant Analysis is a statistical technique which allows the researcher to study the differences between two or more groups of objects with respect to several variables simultaneously. Accordingly here, the researcher tries to differentiate Gold ETF Investors into Low Level Gold ETF Investor, Medium Level Gold ETF Investor and High Level Gold ETF Investor, the term "level" therefore explaining the quantum of investment made in Gold ETF by investors.

Canonical Correlation Analysis

Each Standardized Canonical Discriminant Function Coefficient in absolute values reflects the relative contribution of each of the predictor variable on the discriminant function. Here when first discriminant function is considered, it was found that Mental Accounting (0.465) is exerting more influence in discriminating between a High Level Gold ETF Investor to Middle Level Gold ETF Investor to Low Level Gold ETF Investor. It is followed by Over Confidence Bias (0.451). The lowest

discriminating power is shown by Hindsight Bias (0.230). Similarly analysis is performed for Social, Economic and technical factors alike.

II Reliability Check

As a prelude to Factor Analysis, Reliability Check was conducted. According to J.Karras (1997) Reliability measures the reproducibility of results with repeated trials and reflects the internal consistency of the test. Reliability is an indicator of the amount of variability in the testing method. But Field(2006) explains that "the problem with this method is that there are several ways in which a set of data can be split into two and so the results could be a product of the way in which the data were split. To overcome this problem, Field(2006) cite Cronbach (1951) that he came up with a measure that is loosely equivalent to splitting data in two in every possible way and computing the correlation coefficient for each split. The average of these values is equivalent to Cronbach's alpha, α, which is the most common measure of scale reliability".

III Tests performed prelude to Factor Analysis

Kaiser-Meyer – Olkin Measure of Sampling Adequacy

This measure varies between 0 and 1, and values closer to 1 are better.

Bartlett's Test of Sphericity

This tests the null hypothesis that the correlation matrix is an identity matrix. An identity matrix is a matrix in which all of the diagonal elements are one and all off diagonal elements are zero.

IV Communalities of each variable's variance

Communalities: This is the proportion of each variable's variance that can be explained by the factors and can be defined as the sum of squared factor loadings for the variables.

Initial: With Principal Component Analysis, the initial values on the diagonal of the correlation matrix are determined by the squared multiple correlation of the variable with the other variables.

Extraction: The values in this column indicate the proportion of each variable's variance that can be explained by the retained factors.

V Total variance extracted under Principal Component Analysis

Component: The initial number of components is the same as the number of variables used in the Factor Analysis. But not all 18 components will be retained and only first six components are retained.

Initial Eigen Values: Eigen values are the variances of the components.

Total: This column enunciates Eigen values. First component has most variance and hence highest Eigen value. Accordingly, the next component will account for as much as of the left over variance as it can, and so on. Hence each successive component will account for less and less variance.

Percentage of Variance: This column contains the percent of total variance accounted for by each component.

Cumulative Percentage: This column contains the cumulative percentage of variance accounted for by the current and preceding components.

Extraction Sums of Squared Loadings: The number of rows in this panel of Table 6.5 correspond to the number of components retained.

Rotation Sums of Squared Loadings: Variance distribution after Varimax rotation is represented in this panel.

VI Rotated Component Matrix

This table contains the rotated factor loadings (factor pattern matrix), which represent both how the variables are weighted for each component but also the correlation between the variables and the component.

VII Theoretical Framework on Behavioural Finance factors

Conventional finance is based on the theories which describe people for the most part behave logically and rationally. People started to question this point of view as there have been anomalies, which are events that conventional finance has a difficult time in explaining. Three of the biggest contributors to the field are psychologists, Dr. Daniel Kahneman and Dr. Amos Tversky, and economist, Richard Thaler. The concept of anchoring draws upon the tendency for us to attach or "anchor" our thoughts around a reference point despite the fact that it may not have any logical relevance to the decision at hand.

Mental accounting refers to the tendency for people to divide their money into separate accounts based on criteria like the source and intent for the money. Furthermore, the importance of the funds in each account also varies depending upon the money's source and intent. Seeing is not necessarily believing as we also have confirmation and hindsight biases. Confirmation bias refers to how people tend to be more attentive towards

new information that confirms their own preconceived options about a subject. The hindsight bias represents how people believe that after the fact, the occurrence of an event was completely obvious. The gambler's fallacy refers to an incorrect interpretation of statistics where someone believes that the occurrence of a random independent event would somehow cause another random independent event less likely to happen. Herd behavior represents the preference for individuals to mimic the behaviors or actions of a larger sized group. Overconfidence represents the tendency for an investor to overestimate his or her ability in performing some action/task. Overreaction occurs when one reacts to a piece of news in a way that is greater than actual impact of the news. Prospect theory refers to an idea created by Kahneman and Tversky that essentially determined that people do not encode equal levels of joy and pain to the same effect. The average individuals tend to be more loss sensitive (in the sense that a he/she will feel more pain in receiving a loss compared to the amount of joy felt from receiving an equal amount of gain). Whether it's mental accounting, irrelevant anchoring or just following the herd, chances are we've all been guilty of at least some of the biases and irrational behavior.

Behavioral finance is a relatively young field that offers considerable opportunity for informed investors. In the not-too-distant future, behavioral finance may be formally recognized as the missing link that complements modern finance and explains many market anomalies. Perhaps some market participants will even wonder how it was ever possible to discuss the value of stocks without considering the behavior of buyers and sellers.

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International / National Journal Publications:

- **Sheeba K.H (2015)** "Investing through Gold ETF in the Gold Exchange(G Ex) Market" *Volume-2 ,Issue 10, June 2015, under Paper ID: IJIFR/V2/E10/082* in **International Journal of Informative and Futuristic Research**, **Impact Factor:4.164 (**Refereed International Journal of Multidisciplinary Research), ISSN(Online):2347-1697
- **Sheeba K.H (2015)** "Consumerism and Changing Approaches to Gold Purchase Pattern" at the **International Journal of Management, IT and Engineering** (ISSN: 2249-0558), Volume 05, Issue 09
- **Sheeba K.H (2018)** "Relevance of Social Attributes as a Contributing factor towards Gold ETF Investments in Indian Investors" at the **Universal Review Journal (**Multidisciplinary International journal), ISSN: 2277-2723, **ISO 7021-2008 Certified Journal, Volume 07, Issue XI, November 2018 with Impact factor 5.7, pp.: 493-504**

Conference/Seminar Proceedings

- **Sheeba K H (2014),** " Shift in Gold Consumption pattern from an emotional asset to an economic asset-an investor centric approach", Proceedings of the UGC sponsored Two day National Seminar on "Sustainable solutions for E-waste management" organized by the Department of Commerce, M E S College, Marampally on 19-20 November 2014, ISBN- 978-81-923985-6-3, : 183-201
- **Sheeba K.H (2015)** "The Gold Monetization Scheme and Investments in Gold ETF- A critical review" in the proceedings of Two day UGC Sponsored National Conference on Innovative trends in Commerce and Economics to tackle the Competitive Global Environment, organized by the Department of Commerce, Abeda Inamdar Senior College, Pune ISBN -8-93-83777-02-0

Papers presented in Conferences/ Seminars/ Symposia

- **Sheeba K.H (2014)** presented a paper on "**Metamorphosis of Gold Exchange (G-Ex) from Commodity Exchange(C- Ex)Market"** at International Conference on "Financial Innovations"organized by Asmabi College, Kodungallur & State Bank of India *on 5th and 6th of August 2014*
- **Sheeba K.H (2015)** presented a paper on **"Understanding the role of Gold ETF's in Remodelling the Indian Capital Market"** at Two day UGC Sponsored International Conference on "Emerging trends in finance and management" (ICETFM 2015)organized by Asmabi College, Kodungallur *on 26th-27th November 2015*
- **Sheeba K.H (2016)** presented a paper on **"The Horizons of Gold ETF's as an Investment Portfolio Construct"** at One day National Seminar on "Investimento- Discovering New Horizons of Investments: Mentoring aspiring youth for a financially secure life" organized by Department of Taxation& Marketing , Bharat Mata College, Thrikkakara on 11th November 2016
- **Sheeba K.H (2018)** presented a paper on **"A Study on the Behavioural Finance Attributes that Influences Gold ETF Investments in Indian Investors"** at International Conference on Business and Information (ICBI-2018)on Enriching Multidisciplinary Research Potentials of International Collaboration towards Sustainable Development organized by Indo-Sri Lankan Co-host Research Collaboration Co-hosted by the University of Kelaniya, SriLanka & Toc H Institute of Science and Technology, Kochi, Kerala, India on 23rd November 2018
- **Sheeba K.H (2018)** presented a paper on **"A Descriptive Analysis on Investors' Economic factors influencing Gold ETF Investments in India"** at International Conference on Emerging Trends in Management organized by Marian International Institute of Management, Kuttikkanam, Kerala on 12th & 13th December, 2018

- **Sheeba K.H (2018)** presented a paper on **"Relevance of Social Factors as a Contributing factor towards Gold ETF Investments in Indian Investors"** at International Conference on Multidisciplinary Approaches in Social Sciences, Humanities and Sciences organized by Sri S.Ramasamy Naidu Memorial College, Sattur, Virudhanagar District, Tamilnadu (India) in association with Conference World on 14th December, 2018

Participation at Research internships/ Trainings

- Completed **National Internship at IIM Kozhikkode as a National Research Intern** for a period of one month from **12/01/16-12/02/16** as a part of National Internship Programme offered by FLAIR, sponsored by Higher Education Department, Government of Kerala.
- Participated in the **three day Workshop on Annual Research Methodology Course (Series-1): Research Skills and Data Analysis using R**, organized by School of Management Studies, Cochin University of Science and Technology, from **11th -13th May 2016.**