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SOCIO-DEMOGRAPHICS, RISK PROPENSITY, AND INVESTMENT DIVERSITY MODERATING ROLE OF FINANCIAL LITERACY

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ABSTRACT

Human behaviour is a complex phenomenon that combines psychological traits with decision-making. Therefore, it is an intricate relationship between traditional finance and cognitive behaviour. Financial policymaking and investments are practical manifestations of asset allocation decisions taken under the influence of human personality biases dominating mind of decision-maker through analyzing empirical data. This paper is a shift from professional investors; rather it attempts to explore the behaviour of non-professional i.e. common people to find out the relationship between risk behavior and effects of socio-demographics on personal asset allocation decisions by common citizens not having much awareness of financial instruments with an aim to find out moderating effects of financial literacy. This descriptive study has been carried out on a survey questionnaire containing 70 items on 775 respondents from Pakistan, Canada, Tunisia, Romania, Jordan, Moldova and UK including 85 military personnel and personal interviews of 18 respondents. The outcome of research indicates that in decision making domain financial literacy has been found to significantly moderate relationship between socio-demographics, risk propensity and investment decision-making. It concludes that with increase in age and marital status the investment diversity improves, moreover married/widowed women are more risk-averse than males. However, married people as a whole tend to diversify their investments; however, financial literacy and education contribute towards investment diversity and reduce the risk-taking ability. Hence, this survey can be used as an effective tool for designing financial instruments for general community.

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1. INTRODUCTION

The community as a whole shapes the outlook of an economy by taking investment decisions and making the financial sector realise the need for innovative products to match the changing requirements (Booth & Halseth, 1999). This paper is an attempt to find a link between behavioural traits within the domain of household decision-making and relates the significance of financial literacy to savings-investment planning to get attractive returns. Financial literacy (FLM) sets the stage of decision making by provides an intellectual platform for investment decisions (Mandell, 2009), which in turn shape the savings pattern and direction of economy when applied to the whole community Investment and asset allocation decisions are generally compelled and constrained by non-financial factors like personality traits and the social environment in which people are making decisions (Lusardi & Mitchell, 2014). Research on FLM has been endeavoring to find out the relevant tools to study the materials and traits of an individual to find optimum utilisation of assets; it has tended to assume that individuals will be able to choose better options on the basis of processed information gained through financial awareness.

One aspect missing in the whole literature is that FLM materials somewhere ignore the role of cognition in shaping financial decisions, particularly the people deprived of basic life amenities, people with limited financial resources and those presumed to be illiterate (Herd & Holden, 2010). The problem here is that FLM is not the availability of information because the access to information is easy but how to translate that information into a decision is the core issue, the aim of this paper is to find out how financially literacy moderates the decision-making within confines of socio-demographics and risk propensity (Remund, 2010). The effects of moderation will be separately studied in the connection with socio-demographics as control variables and risk propensity being predictor so as to find out how FLM affects the predictor effects of the risk appetite of the community. This paper also determines that low scoring individuals seem to be less unacquainted to financial concepts, yet trying to optimise their decisions to get the best out of available financial resources and often going wrong due to internal biases on risk propensity and less open to accepting financial advice from experts in the field. This paper also throws some light on the changing behaviours with more education but less FLM giving it a leading role in making the community aware of importance of financial products. It has been generally observed that people perceive themselves to be overconfident about their financial knowledge and skills, with ease of information access, people tend to grade themselves as financial experts merely by going through some written material easily available and overestimating their financial decision-making skills (Hudlicka, 2018).

As a whole the majority of households have no or limited FLM, it has been observed that they are even not aware of the existing vulnerabilities of their potential investments and take a decision on the basis of intuitiveness. Problems even aggravate when people with limited financial capacity are presented with a complex list of sophisticated financial products and he wants to get the maximum out of limited funds in minimum time, at this time making the right decision. At this point, FLM plays its role as a guide or at least supports/ aids the decision making (Roa et al., 2018). In reality, the problem is that factors leading to the decisions by the investors in the money and capital market have been well researched, however, a common man contributing to the economy and shaping financial products continues to be neglected. The asset allocation decisions by community set the pace and

general direction of the economy, therefore factors that determine the choice of financial products or drive the people to invest, disregard to the fundamentals and the risks involved in a product needs to be investigated. The objective of this research is to investigate whether social and demographic environment, risk propensity of an individual have some correlation to the decision making concerning asset allocation, including choice of financial products and diversifying the investment to cover the risk, moreover investigate whether the selection of choices is affected/moderated by ability to process the available information on the basis of financial knowledge therefore in this process this study aims at finding out the gap between availability of information and ability to translate the same into investment.

The identified problem and the objectives of this paper raise some questions focused upon specific areas and their relationships to be studied, the questions which will help to find to bridge the gap in the body of knowledge. The questions are brought into the study hypotheses (see section 3).

2. LITERATURE REVIEW

One of the leading argument in behavioural finance is that individuals are not behaving in a rational manner and the decisions are either based on cognition or intuition. This has been observed in the literature, researched and correlated with rationality (Han et al., 2018) examined that individual biases are dominant characteristics and have significant relationships with the investor's behaviour in the market. Therefore, he concluded that markets were not found to be fully efficient and the reason sighted was individual behaviour overshadowed by cognitive psychology. This is in total contrast to the literature on psychology suggesting that asset allocation decisions are greatly influenced by several perceptive biases e.g. loss aversion bias, anchoring, and overconfidence biases play significant role in the behavioural finance domain (Shah et al., 2018).

Impact of demographic factors do leave marks on the investor's perception of asset allocation, investment decisions have found to be greatly affected by demographic factors e.g. gender, age, education level, marital status, family background, and income. Literature does provide an insight into the relationship of socio-demographic factors to the investment decisions, factors like age, marital status, income level, qualification, savings patterns all were found to have a positive impact on investment decisions (Sornaganesh & Helina, 2018). Age and gender have an impact on investment decisions and the ability to process the knowledge into practice, females in US were found to be low in financial literacy as compared to males of the same level of education and socio-demographics environment (Atkinson & Messy, 2011). Another study on FLM also got the same findings that females tend to have low levels of financial information/knowledge also they have been found to be less prone to risky investments in comparison to their male counterparts (Lusardi & Mitchell, 2014). Risk appetite is one of the leading aspects of investment decisions, Gender, and marital status have been found to be closely linked to risk profile of individuals, male investors are usually found to be more prone to risky investments than female investors, however it cannot be applied to the overall research settings as a study examined that female investors took more risks as compared to the male with the same demographic background and level of knowledge and awareness about the vulnerabilities tied to the investment decisions (Kumar & Babu, 2018). Age also has an

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impact on investment decision making, research has examined that young people are more aggressive and abrupt in financial decision making, they take more risks than older, however their decisions have been found to be less diversified and lacking long term planning when compared to mature people. Family setup and age are positively correlated to investment decisions moreover there is a strong relationship between family setup and age this relationship also leads to the characteristic of overconfidence in the investors (Mahalakshmi & Anuradha, 2018). Being married or unmarried/ widowed or divorced, all have been found to be significantly correlated with the investment decisions as unmarried have lesser responsibility and tend to ignore the financial information being less relevant, marital status has deep-rooted relationship with the decision making, married people are more conscious about their investment decisions and make some effort to attain knowledge regarding financial instruments available, therefore they are more literate than unmarried counterparts as they have to make investment decisions at their own, moreover going further when the status is further complicated as widowed or separated (Atkinson & Messy, 2011), the decision responsibility increases and people tend to take cautious decisions, therefore the possibility to make informed decisions even increases and result in their optimum allocation of resources with diversified financial strategies (Sadiq & Ishaq, 2014).

FLM has been researched and found to be significantly contributing towards the investment diversification with the better financial health of an economy and bringing overall stability in the overall system (Chatterjee & Fan, 2018). To define FLM it can be gauged on the basis of general understanding and assimilation of important/ essential financial terminologies/ concepts required to decipher the available base of knowledge and process this into practical application of a decision needed to allocate assets (Chu et al., 2016), in simple terms it can be termed as ability to apply knowledge to meet the investment needs. FLM is an aspect that has been found to be closely linked to the investment decisions and even economic development, national financial character and investment patterns, are related to FLM because financial instruments are designed as per customer needs and fact of the matter is that financially literate society does put the financial sector under pressure for innovating new products to meet the ever-changing customer needs (Jones et al., 2018). At the grass-root level it equips the people with suitable knowledge and skills which can facilitate better understandings of the environment, the available financial instruments in the markets and products, helping them to make optimized judgments, avoiding unforced errors or being carried away with the false impression of a misled advertisement or advice, this helps in making informed investment decisions, keeping profitability in control and help the economy to grow at healthier pace (Kadoya & Khan, 2016). On the contrary, if low financial literacy is on the lower side it does not only damage the economic health state, but individuals can take extreme measures as people have committed suicide, have had family break ups, divorce, separation, murders and even nervous breakdown after gross loss of investments. Though this is not directly associated with lack of financial knowledge but research has concluded that through some corrective measures these aspects can be covered, or at least people don't opt for extreme measures as they have some backup plans on the basis of their knowledge (Park & Kim, 2017). The risk profiling has also been found to be associated with FLM it has been examined that people with low-literacy are more likely to take risky decisions by obtaining loans at higher costs often paying higher costs of mortgages and housing loans at unrealistically higher interest rates, often due to ease of processing or wrong advice, particularly in

the respect of common household (Bellofatto et al., 2018). Investment choices, diversification and portfolio adjustments, ineffective investment of savings and poor financial decisions are all related to the awareness of investor, though a well-diversified may prove to be poor in short-run but at least FLM contributes towards mental satisfaction of the investor about that decision (Anzola & Guzman, 2016). Older people do diversify their investments, even though not very well equipped with updated financial knowledge, however if even basic financial knowledge and skills are provided it would add sophistication of those decisions, on the other side few old age people end up losing all life savings in unhealthy and non-productive financial instruments resulting in inequitable wealth accumulation or ending up at taking loans which would exhaust all their resources either due to overconfidence in own abilities/ knowledge or urgency of securing funds, therefore research examines that decision making within the setting of literacy domain does observe improvement in all respects (Gupta & Gupta, 2018).

Studies have examined that investment decisions are more related to the environment in which a person or society in which a person is living, whether it is a developed, underdeveloped or undeveloped areas, it also has a strong linkage with the level of confidence of a person and the FLM gained by a person. Savings patterns and risk behaviour have also become associated with the demographic characteristic of the environment a person is living in (Churchill, 1979). Risk tolerance behaviour reflects a personality that hesitates to take a decision in an uncertain situation for fear of loss if there is a safer alternative available with a better-expected outcome (Bertrand & Lapointe, 2018). It can be further explained as the willingness of a person to engage in a transaction or engagement if the desired goal is overshadowed by fear of loss and uncertainty, whether it is accompanied by a better choice with some amount of certainty attached to that, and risk tolerance would be a step ahead from risk avoidance to risk-seeking (Chang et al., 2014) . Within the domain of financial decision making, risk behaviour is generally defined as the degree of uncertainty a non-professional person or even professional investor is willing to accept while making an investment or asset allocation decision and with addition of this factor it becomes one of the most dominant characteristic influencing wide range of personal investment decisions, investment suitability in long and short-run remaining within decision frameworks (Aven & Jensen, 2018). Risk propensity also connects to the patterns of investment, selection of financial instruments, retirement plans, credit card usage, and debt instrument selection are all liked to the behavioural trait of taking risk, it wouldn't be unreasonable to expect that people with varying levels of risk tolerance should act differently while taking a decision or to say while risking their savings, with those having a high-risk tolerance (i.e., low aversion to risk) investing more aggressively. It has been observed that emotions are directly linked to the cognitive and behaviours influencing risk tolerance but the individuals have a feeling that their selection of an option is a well-judged and assessed choice (Grable, 2018).

3. HYPOTHESES

The correlation between Socio-demographic aspects, FLM and Risk propensity and the impact of all these variables upon individual investment decision making can be investigated with following hypotheses:

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H 1. Socio-Demographic Factors, Risk propensity influences investment diversity, and the relationship is moderated by factors of FLM.

H 2. Relationship between Socio-Demographic Factors and Risk tolerance is moderated by FLM.

H 3. Socio-Demographic factors influence investment diversity, and this relationship is moderated by FLM.

H 4. Risk tolerance behaviour has an impact on investment diversity, and the correlation is moderated by FLM.

H 5. FLM impacts investment decisions and investment diversity.

H_0. Socio-Demographic Factors and Risk propensity have no influence on investment decisions, moreover, this correlation is not moderated by FLM**.**

4. THEORETICAL MODEL

The study framework is given in Figure 1.

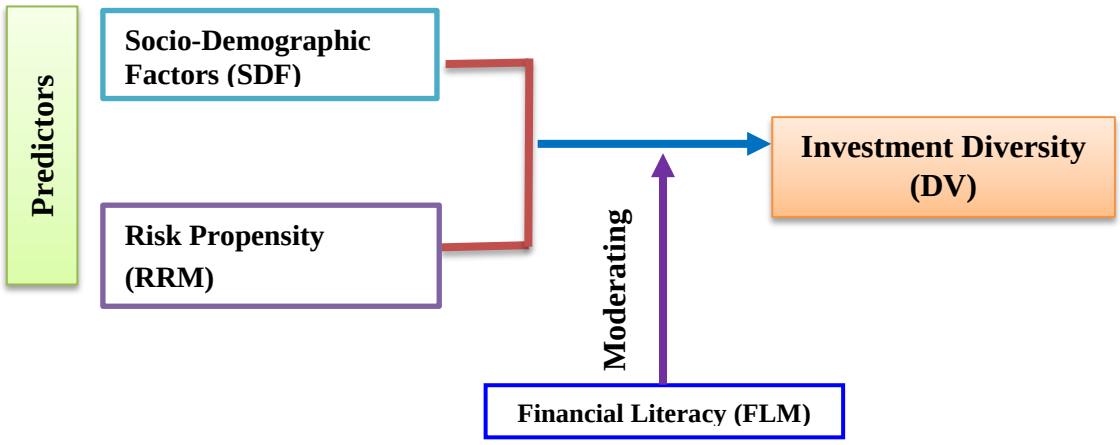

Figure 1: The studied framework.

5. ANALYTICAL METHOD

The study has been carried out on a survey instrument having 70 items, moreover interviews of 18 respondents have also been held with same instrument. The research is descriptive in nature, however the analysis has been carried out using quantitative approach. To validate the questionnaire a pilot study was conducted on 51 respondents with an overall Cronbach's alpha score of 0.82.

Questions have been adapted from tested instruments, and the survey was conducted in English and native language (Urdu) for easy assimilation. A total of 2100 questionnaires were distributed in 8 different cities of Pakistan during 2017 and 2018 and it took almost 18 months to collect the data and this study encompasses respondents from altogether different cultures and society and education patterns.

The analysis has been carried out on a Statistical Package for Social Sciences (SPSS), software using Andrew Hayes Process for Moderation analysis (Hayes, 2012). The data has been empirically

tested and results have been estimated to check the total, direct, indirect and conditional effect.

In order to estimate the total sample size for the population (Smith, 2018) guidelines have been taken from a study to get the correct sample (Smith, 2018), as per the guidelines, for an unknown sample, the response from more than 385 respondents can be generalised on the population. Out of 2100, a total of 757 responses were received i.e. 36%, in addition to that 18 interviews were conducted from respondents who were apparently unable to understand the questions due to very nature of questions framed specially for FLM, including 5 in Romania, results have been empirically investigated using the available statistical computation techniques in Statistical Package for Social Studies.

6. VARIABLES OF THE STUDY

6.1 SOCIO-DEMOGRAPHICS (CONTROL VARIABLES)

Socio-Demographic Factors – SDF (Gender, Marital Status, Academic Qualification, Area of Study, Pattern of Savings, Intellectual Financial Succession, Age and Monthly Income) are all controlled variables in the study. Moreover the life span spent in rural/ urban areas has been examined to be a determinant of financial education (Anzola & Guzman, 2016).

6.2 RISK PROPENSITY (RISK)

The risk and return domain cover sets of questions/ item which has been framed in a manner that these can easily segregate between two distinct personalities i.e. risk seeker and risk avoider, based on responses by participants. This also relates to the correlation between risk and expected return, in order to find out the risk appetite and the extent to which people are willing to take the risk with expectation of corresponding returns, thus study the coexistence of risk and return. Risk propensity falls between the risk and return domains in order to find out what the degree of risk a person is willing to take for a certain return. The term risk may be explained as the probability of loss in a given situation out of multiple choices offered/decision (Hans, 2002).

6.3 INVESTMENT DIVERSIFICATION (DV)

The most critical part of the financial decision making is to determine the degree of spread a person chooses out of available investment instruments to determine the preferences of common people not very familiar with financial vehicles ranging from hardcore financial instruments i.e. Stock market, Mutual Fund, Bonds, Forex trading, Bank deposits to perceived profitable and simple financial instruments i.e. Real Estate, Gold/Silver and Insurance Schemes. A total of eight choices have been offered to the respondent to choose from and given the leverage of choosing one or more choices if deemed feasible, in the process, it has been tested that whether it's a combination of commonly known financial instruments or money market instruments are also chosen. The investment decision is the dependent variable (DV) of this study and it has been divided into three categories i.e. Highly Diversified Decisions (Three or more choices for investment), Moderately Diversified decisions (Two choices) and Undiversified Decisions (Only one option selected).

6.4 FINANCIAL LITERACY (FLM)

FLM is the basic knowledge about investment and profits that is critical in choosing a financial

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instrument or perceived economic outcome, including effective wealth management, credit, and debt management, retirement funds management, saving plans and higher stock market participation (Bonaparte, 2018). FLM questions cover simple and complex questions to examine the basic and sophisticated FLM of the respondents.

7. RESULT AND DISCUSSION

Table 1 represents the statistical behavior of data, in order to determine the central tendency and the normality in the data for all observations.

Table 1: Descriptive Statistics (N =775)

	Min	Max	Mean	SD	Skewness		Kurtosis		Prob.
					Statistic	Std. Error	Statistic	Std. Error	
DV	1	3	1.64	0.88	0.77	0.09	-1.27	0.18	<0.001
Gndr	0	1	0.58	0.50	-0.31	0.09	-1.91	0.18	<0.001
Age	1	3	2.09	0.71	-0.13	0.09	-1.02	0.18	<0.001
Mrtl	1	4	2.65	1.15	0.07	0.09	-1.53	0.18	<0.001
Work	1	3	1.58	0.78	0.89	0.09	-0.80	0.18	<0.001
Incm	1	4	2.99	0.58	-0.33	0.09	1.13	0.18	<0.001
Edn	1	4	2.48	1.14	-0.20	0.09	-1.41	0.18	<0.001
Prof_edn	1	3	2.52	0.55	-0.54	0.09	-0.83	0.18	<0.001
Sav	1	4	1.77	0.58	0.16	0.09	-0.02	0.18	<0.001
Life	1	3	2.31	0.75	-0.58	0.09	-1.00	0.18	<0.001
FLM	1	5	1.18	0.93	-0.15	0.09	-1.36	0.18	<0.001
RRM	1.78	5	3.33	0.60	-0.92	0.09	0.27	0.18	<0.001

Discussion on Table 1. While operationalization of the data descriptive statistics provide an overview of how the data would be placed in the statistical tools. Mean of 2.08 in age depicts that average age of the respondents has been between 30-55 years. In Gndr 58% of respondents were females as reflected by average of 0.58, the measure for the gender was 0 for Male and 1 for females. Marital status is 2.64, which shows that majority of respondents were married or have been married if currently they were not living with spouse (Out of 4 options, option 1 was for single, 2 for married, 3 for Divorced and 4 for Widowed). The average respondents were undergraduates i.e. 2.48, which means that their literacy level, on the whole, was not high, however the score of 2.5 for professional education reflects that in Pakistan, generally the tendency to opt for business administration as a subject is on the rise, for professional education (Prof_edn) there were only three options i.e. 1 for Medical/ Engineering, 2 for Business Administration and 3 for other professions. As regards savings pattern the tendency to save is very low i.e. around 10% of the income, the average of 1.7 out of 4 options (i.e. Upto 10%, 10-20%, 20-30% and Above 30%). The average life span of the respondents has been in Urban areas the average of 2.31 is between Urban and rural areas). The average income (Incm 2.94) score of respondents reflects that average income has been around Rs50,000 (USD320) per month, therefore majority of respondents fall in the middle-income group. The average of 3.332 for Risk and return (RRM) indicates that people are generally inclined to take calculated risk for their investments, as on the scale of 5, with 1 being Risk Averse and 5 reflecting maximum risk, the average above 3 is reflective of medium risk, yet the inclination is towards maximum risk as against the expectation of "play safe" approach. The average i.e. 1.1 of moderating variable (FLM) indicates that respondents have not been able to score well in the FLM questions and the average closer to 1 on a scale of 5 having maximum FLM at 5, means that barely 22% people were able to give correct

answers to the FLM questions, despite bearing maximum responsibility for financial/ investment decisions in a family setup, as the people were in the middle ages and mostly found to be married as explained above. Average of 1.64 on the scale of 3 for dependent variable i.e. diversity of investment decisions (DV), 1 was for undiversified investments, 2 for moderately diversified and 3 for highly diversified investments, mean of 1.64 reflects that 55 % respondents diversified their investments. Marital Status, Savings Patterns, and work status have positive skewness which shows tail on the right side and mass of the distribution is on the left. Age, Gender, Educational Qualification, Professional Education, Life Span, Income and Risk / Return profiles have their tail on the left with negative skewness. None of the variables has kurtosis values greater than 3, which means that tails of the data are not longer, the peak of data is broader and tails are shorter, therefore all the data is Platykurtic. The probability <0.001 for all variables reflects that all selected variables have been normally distributed.

7.1 CORRELATION MATRIX

Table 2 shows the correlation between variables. Dependent Variable of Investment Decision Diversity (DV) has positive relationship with gender (Gndr), Educational Qualification (Edn) and Financial Literacy (FLM) whereas it is negatively correlated with all other variables. Gender is positively correlated with all variables except Age, Marital Status (Mrtl), Professional Education (pro_edn) and Life Span (Life). Age is also positively correlated with all variables except Job Status (work) and educational qualification (Edn) with whom it is negatively correlated. Marital Status (Mrtl) is positively correlated to Incm, pro_edn and life. Job Status is negatively correlated to DV, age, Mrtl, Incm, prof_edn, and life, while it is positively correlated to all other variables. Incm is negatively correlated to DV and work whereas all other variables are positively correlated. Academic qualification (Edn) has positive relationship with DV, Gndr, work, Incm, RRM, and FLM. Professional qualification (Prof_Edn) has negative relationship with DV, Gndr, work, Edn, and FLM. The pattern of savings is having negative relationship with DV, Mrtl, and Edn, whereas all other variables including FLM are positively correlated with sav. Life Span spent in rural/ urban areas (life) is having negative relationship with DV and moderating variable FLM. RRM is having negative relationship with DV and marital status (Mrtl) whereas all other variables have a positive relationship with RRM.

Table 2: Results of Correlation Matrix

	DV	Gndr	Age	Mrtl	Work	Incm	Edn	Prof_edn	Sav	Life	FLM	RRM
DV	1.00											
Gndr	0.12	1.00										
Age	-0.13	-0.16	1.00									
Mrtl	-0.15	-0.27	0.33	1.00								
Work	-0.11	0.24	-0.30	-0.35	1.00							
Incm	-0.09	0.18	0.56	0.15	-0.09	1.00						
Edn	0.01	0.33	-0.06	-0.49	0.34	0.06	1.00					
Prof_edn	-0.17	0.00	0.29	0.28	-0.29	0.24	-0.62	1.00				
Sav	-0.22	0.16	0.11	-0.01	0.12	0.22	-0.13	0.31	1.00			
Life	-0.14	-0.14	0.22	0.02	-0.28	0.13	-0.41	0.48	0.25	1.00		
FLM	0.04	0.19	0.10	-0.10	0.29	0.08	0.18	-0.02	0.37	-0.01	1.00	
RRM	-0.10	0.28	0.40	-0.11	0.15	0.45	0.10	0.29	0.40	0.11	0.63	1.00

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7.2 EFFECTS OF SOCIO-DEMOGRAPHIC AS CONTROL VARIABLES ON DV WITH FLM AS MODERATOR AND RRM AS INDEPENDENT VARIABLE

Table 3 represents the impact of the independent variable (RRM) upon the dependent variable (DV) and the effects of control variable on the dependent variable. Moreover, an interaction term has been created to examine the moderating effect of FLM in relation to Risk propensity (RRM) and change in the significance has been examined.

Table 3: Results (Socio-Demographic as Control Variables on DV with FLM as Moderator and RRM as independent Variable)

Item Coding: Y = dv (Dependent Variable), X = RRM (Risk and Return profile), M = FLM (Financial Literacy) Control Variables: Gndr, Age, Mrtl, work, Incm, Edn, subj, Sav, Life.						
	R	R-sq	F	df1	df2	p
	0.88	0.71	18.92	12.00	762.00	0.00
	coeff	se	t	p	LLCI	ULCI
constant	5.61	0.58	9.60	0.00	4.46	6.76
Flm	-0.38	0.19	-1.94	0.05	-0.76	0.00
RRM	-0.73	0.16	-4.51	0.00	-1.05	-0.41
Int_1	0.18	0.06	3.00	0.00	0.06	0.30
Gndr	0.41	0.07	5.97	0.00	0.27	0.54
Age	-0.12	0.06	-2.05	0.04	-0.23	-0.02
Mrtl	0.20	0.03	5.90	0.00	0.13	0.26
Work	-0.18	0.04	-4.17	0.00	-0.27	-0.10
Incm	0.04	0.06	0.55	0.58	-0.09	0.16
Edn	-0.17	0.04	-3.80	0.00	-0.25	-0.08
Subj	-0.42	0.08	-5.21	0.00	-0.57	-0.26
Say	-0.30	0.06	-5.29	0.00	-0.41	-0.19
Life	-0.15	0.05	-2.78	0.11	-0.26	-0.04
Interactions						
int_1 RRM X FLM						
R-square increase due to interaction(s):						
	R2-chng	F	df1	df2	p	
int_1	.0091	8.9778	1.0000	762.0000	.0028	
Level of confidence for all confidence intervals in the output: 95.00						

FLM has been examined to be having significant relationship with dependent variable i.e. Investment Diversity (DV) with p-value of 0.0525, however it is negatively correlated with the investment diversity, that would mean that with increase of FLM people tend to be less diverse and their basket of investment is restricted to fewer options as compared to Non Financially literate investors. As regards Risk Propensity (RRM) the correlation is again negative, as this variable was in two categories i.e. Risk seeker as 1 and Risk avoider as 0, therefore the negative relationship depicts that Risk Avoiders tend to make diverse investments as opposed to the Risk Seekers, RRM has been found to be significantly related to the Investment Diversity (DV). An interaction term has also been created (int_1) to test the moderating effect of FLM on correlation between RRM and DV and found to be significant. Gender (Gndr) also has a significant impact on investment diversity, however, female members of society (Gndr) have more tendency to play safe and have diversified investments when they are having more responsibility for making financial decisions and take less risk as compared to male counterparts. Age (age) has significant impact on investment diversity, the negative coefficient depicts that with the increase in age the propensity to risk the investments decreases and that is reflected with the negative sign. Marital Status does have significant impact on

investment diversity, the positive co-efficient depicts that married people, especially divorced or widowed are more likely to diversify their investments and keep the investment safe.

Working status (work) has also been found to be significantly correlated to investment diversity, it's negative sign shows that with the responsibility to make decisions and more stability in the job, tendency to risk the investments decreases and possibility to diversify investments will increase. Income status (Incm) does not have any significant correlation with investment diversity, it also depicts an important finding that Risk Propensity is a personality trait and it doesn't have any relation with the level of income and a person is more dominated by his personality preferences. Education level (Edn) has also been correlated with investment diversity, increase in education negatively affects the investment diversity, therefore it depicts that an educated person would always try to want to play safe and would not put all the investment "eggs in one basket". Professional education (subj) has even more significant relationship with the investment diversity, but its negative sign depicts that the people who have studied Medical/ Engineering would possibly try to play safe and diversify their investments as compared to those who have studied business management or other subjects, as these would keep the options of investments limited, probably due to knowledge about the instruments they are choosing. The pattern of savings (Sav) has negative, yet significant impact on risking investments i.e. people who save more are more likely to choose fewer options for investments as compare to those who save less. Life Span (Rural/Urban) does not have any significant relationship with diversity of investments. The interaction term (int_1) for moderating variable (RRM x FLM) has also been found to be significant therefore FLM significantly moderates the impact of RRM on DV.

7.3 DIRECT AND INDIRECT EFFECTS OF FINANCIAL LITERACY AS A MODERATOR

As evident from Table 4 above that model is highly significant and the coefficient is -.2777 depicting a negative correlation of Risk Propensity of a person with the Investment Diversity, however, the same relationship becomes positively correlated after adding the moderating effect of FLM.

Table 4: Direct effect of Risk Propensity on Investment Diversification

Effect	**SE**	**t**	**p**	**LLCI**	**ULCI**
-.2777	.0580	-4.7862	.0000	-.3916	-.1638
Indirect effect of Risk Propensity on Investment Diversification					
	Effect	Boot SE	BootLLCI	BootULCI	
FLM	.0416	.0152	.0179	.0776	

Change in the correlation sign from negative (-.2777) to positive (.0416) reflects that FLM has played its role in significantly moderating the relationship between independent and the Dependent Variable.

8. CONCLUSION

The studied result indicates that investment decision making can be correlated with FLM and risk propensity. However, through this study, it has been examined that personality traits and internal

biases do play their role in the financial decision making of a household. Women have been found to be more risk-averse than men, moreover, people of a young age have been found to be casual about financial decision making. As the study included respondents from Europe, USA and Arab countries the level of FLM has been found to be more in Europe as compared to Pakistan and Arab countries. As regards knowledge about financial instruments and choosing options among investment vehicles, Real Estate was one of the most chosen options among all respondents, irrespective of the education level, age, income group or gender. The tendency to save was more pronounced among female respondents, mostly Pakistani women choose to keep money in bank being safe and considered it as a saving instrument. Since the study was not conducted on finance professionals, therefore respondents did add notes for not been able to understand the FLM questions. As regards risk propensity the majority i.e. 621 respondents were falling between 3-5 on the scale of 5, therefore, it can be concluded that 80% of the respondents have been found to be risk-averse. Moreover, FLM has been found to be significantly moderating the relationship between RRM and DV and bringing the correlation from negative to positive domain. It is observed that FLM as an independent variable has negative coefficient, but it has brought the independent variable to positive zone when its moderating role has been added to the model.

The decision on asset allocation by the non-finance related professionals continues to be a gap in the body of knowledge and needs further investigation to cover more behavioural aspects of personality. FLM does moderate the relationship between Socio-demographic factors, Risk Propensity and investment decision making. Socio-demographic factors being controlled variables have a significant role in establishing correlation between investment decisions and Risk propensity. Income does not have significant impact on the correlation between risk propensity, FLM and investment decision making.

People of more age, married, women, less educated and Pakistanis have been found to be comparable risk-averse as compared to their counterparts,

Investment diversity has been found to be a weak link in the society at large only 210 respondents chose to have highly diversified investments i.e. 27% of the total sample, majority i.e. 73% of respondents either chose to have Low or No diversity in the investment choices, moreover the diversity has been found to be more pronounced in the western respondents as compared to Pakistani respondents.

The study has been able to target the community which is the main driver of an economy, unlike the other previous studies focusing on the investor. Community decisions shape the direction of an economy and force the financial institutions to innovate and come up with new financial products. The model of this study has been examined to be highly significant. FLM has been identified as a significant stimulus for investment decisions being driven by the Socio-demographic factors and Risk propensity of an individual. The study has identified that investment decisions are mostly taken upon intuition and personality has been a dominating factor in determining the risk propensity of an individual. Male has been found to be more prone to risk than Females, moreover married people are more cautious about their investments, financially literate people take calculated risks by choosing lesser but diversified options. The life span of an individual (Urban/ Rural) and income group does not have any impact on investment diversification, even if moderated by FLM.

9. AVAILABILITY OF DATA AND MATERIAL

Data can be made available by contacting the corresponding author.

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