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An Empirical Analysis of Stock Market Participation Intention among B-School Students Studying Finance

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Abstract: Stock Market participation among B-School students studying finance is an important aspect as they are potential investors as well as work in financial services firms that actively participate in stock market and regulator SEBI, Government and financial services firms are also interested in studying the investment attitudes of B-School students. Stock Markets need to have increased participation from retail investors as they convert personal savings to investments. This study studied the stock market participation intention in terms of plan to invest among B-School students using binary logistic regression to predict plan to invest which is binary dichotomous variable based on variables like finance subject knowledge, knowledge of stock markets, instruments, risk return concepts, demat account operating, watching business news channels and discussing with family and friends about stock markets. B-School students are highly interested to invest in stock markets enforced by gaining of knowledge related to finance subject, stock markets functioning, instruments, risk return further supported by practical knowledge of demat account operating, business news channels and discussions with friends and family members.

Key words: Behavioral finance, stock market participation, binary logistic regression, B-School students, finance curriculum

INTRODUCTION

Indian Stock Market has been growing over years, expected to continue its growth in future and has become a critical component of growth for Indian economy. Stock market participation can lead to significant increase in savings as the stock markets generate higher rate of returns than the deposit rate if invested properly. Stock Market participation by post graduates passing out from business schools and universities across India is also essential as along with institutional investors retail investors particularly B-School students who are well trained and equipped . To skill and prepare the graduates for a career in stock markets and related jobs, the curriculums had been updated by introducing subjects like financial management, corporate finance as compulsory subjects at both the under graduate and post graduate level and these subjects deal with basic concepts of stock markets functioning, instruments, risk return calculations, valuation and portfolio investment strategies. Elective courses specifically for students opting finance as elective included security analysis portfolio management, financial risk management, treasury management, financial modeling and mergers and acquisitions. Not only the graduates work in financial, investment and stock market related firms but also are the future potential investors in the stock market. This study aims to empirically study the stock market participation intention in terms of plan to invest in stock market by B-School students who study finance towards investing in stock markets.

Background of study: Investor education particularly focusing on the risks and returns involved in the stock markets is critical for retail investors who invest or wish to invest in stock markets. Stock markets are considered to be high risk and a chance of investors loosing wealth is very high if they fail to understand the stock markets. Regulators and Governments realized the importance of investor education and included in the curriculum of B-Schools so that the students thoroughly understand the stock markets. B-Schools along with teaching curriculum also organize guest lectures by experienced professionals in the field of stock markets and encourage students to also watch business news channels and read business newspapers. Case study methodology and simulation games like stock market investment and portfolio games are also used as part of teaching

methodology to provide the students with practical real time experience of the stock markets. Stock markets related tools and technologies like the demat accounts, trading platforms, market databases, financial technology software tools like Microsoft Excel, SAS, etc. are also used to train students to further increase their expertise and familiarity of stock markets. Internships and projects are also provided to the students so that they have a practical experience of stock markets. The study helps the regulator SEBI, financial services and investment firms and government to understand the efficacy of the financial curriculum being taught in B-Schools.

Literature review: Cocco *et al.* (2005) concluded that stock market participation lead to welfare gain to investors as investing in equities lead to significant long term increase in savings for investors and increases investor wealth. Initial studies focused on financial literacy among college students Chen and Volpe (1998) concluded that the college students with low level of financial literacy made wrong and uninformed decisions. Clancy *et al.* (2001) concluded financial education had a significant impact on the individual savings which is critical for investing stock markets. Guiso and Jappelli (2005) study concluded lack of stock market awareness effects the stock market participation and this argument further strengthened by Rooij *et al.* (2011) study of Dutch families. Brown *et al.* (2008) study identified a casual relation effect on individual's owning of stocks based on community's average stock market participation. Lusardi *et al.* (2010) study concluded that financial literacy important for making crucial financial decisions related to student loans, credit and debit cards, etc. Harter and Harter (2010) study found students participating in stock market simulation games had significant positive impact of the financial knowledge and literacy of students. Hathaway and Khatiwada (2008) recommended financial training programs should be targeted to specific financial areas and audience and programs should be constantly evaluated. Since most of the studies focused on the financial literacy, this study for the 1st time in India focuses on the investment attitude of students studying finance whether they will invest in stock markets or not.

The hypothesis that is being tested in this study framed as Null Hypothesis (H_0) studying Finance in B-School does not influence the decision of students to invest in stock markets.Alternate hypothesis framed as studying finance in B-School influence the decision of students to invest in stock markets.

Sample and questionaire: For the purpose of this study, post graduate management students who studied finance as part of their curriculum were selected. A total of 360 students were randomly selected from across different B-Schools and survey conducted for a duration of 2 weeks using questionnaire that was emailed to individual students using Google Documents. Out of 360students, 294 students responded to the questionnaire in complete and the response rate was 82%. The questionnaire consisted of questions related to five point Likert scale based related to finance subject knowledge (finance subject knowledge), understanding the function of Stock market (Stock Market Function), understanding stock market instruments (Stock Market Instruments), understanding concepts of risk and return (risk return understanding), understanding concept of expected return (expected returns), know demat account operating (demat operation), guest lectures improved stock market knowledge (Guest Lectures), watching business TV channels improved stock market knowledge (Biz TV Channels), discussion with family and friends about stock market (friends family discuss) and binary scale question plan to invest (yes or no). The five point Likert scale includes Strongly Agree (5), Agree (4), Neutral (3), Disagree (2) and Strongly Disagree (1) and binary scale included yes (1) and no (0). The questionnaire was sample tested with 30 students and then sent to the sample of 180 students. The questionnaire was designed using Google Docs in such a way the student cannot submit the questionnaire without answering all the questions and only one submission allowed per each email id login. The data was automatically stored in Google Spreadsheet for further analysis.

MATERIALS AND METHODS

The data collected through the survey questionnaire analyzed using statistical tool SPSS V20 and statistical techniques like Cronbach's Alpha for reliability analysis and the binary logistic regression analysis conducted to study the investment attitude of students studying finance whether or not they invest in stock markets. Cronbach's alpha is a common measure of internal consistency and used when there are multiple Likert questions in a questionnaire that forms a scale and determines reliability of scale. A binary logistic regression (also referred as logistic regression), predicts the probability that an observation falls into one of two categories of a dichotomous or binary dependent variable based on one or more independent variables that can be

either continuous or categorical. In logistic regression, the dependent variable is binary or dichotomous, i.e., it only contains data coded as 1 (yes) or 0 (no). Logistic Regression aims to best fit model to describe the relationship between the binary dependent variable and a set of independent or predictor or explanatory variables. Logistic regression generates the coefficients with standard errors and significance levels of a formula to predict a logit transformation of the probability of presence of the characteristic of interest Eq.1:

$$\text{logic} = b_0 + b_1X_0 + b_2X_2 + b_3X_3 + ... + b_kX_k$$

where p is the probability of presence of the characteristic of interest. The logit transformation is defined as the logged odds and Eq.2

$$\text{Odds} = \frac{p}{1-p} = \frac{\text{probability of presence of characteristic}}{\text{probability of absence of characteristic}}$$

$$\text{Logit}(p) = \text{in}\left(\frac{p}{1...p}\right)$$

In this study the binary dichotomous dependent variable plan to invest (yes (1) or no (0)) and eight independent variables measured in five point Likert scale are Stock Market Function, Stock Market Instruments, Risk Return Understanding, Expected Returns, Demat Operation, Guest Lectures, Biz TV Channels and Friends Family Discuss.

Regression Analysis equation: Using SPSS V20 Binary Logistic Regression using Planto Investas dependent dichotomous variable and nine independent variables including Finance Subject Knowledge, Stock Market Function, Stock Market Instruments, Risk Return Understanding, Expected Returns, Demat Operation, Guest Lectures, Biz TV Channels, Friends Family Discuss and METHOD = ENTER.

Post this step of binary logistic regression two independent variables Expected Returns and 0.818×Biz TV Channels+0.847×Friends Family Discuss.

RESULTS AND DISCUSSION

The response rate for the study is 82% (147 responses out of 180) and included 62% male respondents and 38% female respondents. All the 294 cases have been included in the analysis. Reliability analysis conducted using Cronbach's alpha which is 0.913, indicates a high level of internal consistency in the scale used. A look at the final column in the item-total statistics table under the column header "Cronbach's Alpha if Item Deleted" all the questions has a higher values which signifies an overall reliability coefficient for the set of variables in the study.

Table 1: Model Summary a

Steps	-2 Log likelihood	Cox and Snell R^2	Nagelkerke R^2
1	120.995a	0.555	0.787

Table: 2 Classification Tablea

	Predicted		
	Plan to invest		
Observed (step 1)	0	1	Correct (%)
Plan to Invest (0)	70	18	79.5
1	12	194	94.2
Overall percentage			89.8

Binary logistic regression was performed to predict the effects of financial subject knowledge, Stock Market Function, Stock Market Instruments, Risk Return Understanding, Demat Operation, Biz TV Channels and Friends Family Discuss on the likelihood that students plan to invest in stock market. The logistic regression model was statistically significant chi-squares value of 237and $p< 0.0005$. The null hypothesis that intercept and all coefficients are zero is rejected. The model explained 78.7% (NagelkerkeR2) of the variance in plan to invest (Table1) and correctly classified 89.8% of cases. (Table 2).

The odds that student with financial subject knowledge will invest in stock market is 3.5 times more than the student without finance knowledge, odds that student with knowledge of Stock Market functioning will invest in stock market is 3.4 times greater than student without knowledge of stock market functioning, odds that student with understanding of Risk Returns concept will invest in stock market is 5.6 times greater than student without understanding of Risk Return concept, odds that student who knows how to operate Demat account likely to invest in stock market is 2.2 times greater than student without knowledge of demat account operating and odds that students who discuss stock markets with friends and family likely to invest in stock markets is 2.3 times greater than students who do not discuss stock markets with family and friends (Table 3, Exp (B)).

Table3 -Variables in the Equationa

Variable Step	B	SE	Wald	df	Sig.	Exp (B)	95% CI for EXP(B) Lower	Upper
FinanceSubjectKnowledge	1.263	0.396	10.184	1	0.001	3.536	1.628	7.682
StockMarketFunction	1.225	0.363	11.410	1	0.001	3.405	1.672	6.932
StockMarketInstruments	0-.823	0.392	4.407	1	0.036	0.439	0.204	0.947
RiskReturnUnderstanding	1.720	0.420	16.733	1	0.000	5.584	2.449	12.73
DematOperation	0.805	0.383	4.418	1	0.036	2.238	1.056	4.743
BizTVChannels	0-.818	0.310	6.963	1	0.008	0.441	0.240	0.810
FriendsFamilyDiscuss	0.847	0.310	7.495	1	0.006	2.334	1.272	4.281
Constant	0-12.614	1.754	51.708	1	0.000	0.000		

CONCLUSION

Students studying finance in B-Schools intend to invest in stock markets as studying finance subject as part of curriculum improves the students' knowledge of stock market functioning, instruments and concepts of risk and returns. Students are confident to invest in stock markets along with the fact that regulators and governments advise investors who have knowledge and understanding of stock markets should only invest. Practical training provided to students in regards to opening and operating a demat account also a major contributor to intention to invest. Watching the many business news television channels that cover the stock market functioning on day to day basis, expert opinions and interviews both domestic and foreign experts and other programs covering financial markets, companies, sectors, contests and competitions also increased the intention to invest in stock markets by B-School students.Another factor that enforces the intention is the discussions of stock markets with family and friends of students as some of the studies also proved that social group influences the decision to invest in stock markets. The study concludes that students studying finance in B-Schools have intentions to invest in stock markets.

Future studies can be carried out in this area that can include increasing the sample size covering other educational institutions other than B-Schools like Universities and other colleges, since the B-Schools in metro cities are only included in this study future sample can also include students who study in non-metros and other variables related to level of financial subjects and knowledge can also be included in future studies.

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