

## **Customer and Advisor Financial Decisions: the Theory of Planned Behavior Perspective**

**Doriana Cucinelli**

Researchfellow, University of Milan-Bicocca  
Via degli Arcimboldi, 8, Milan, Italy  
SDA Bocconi School of Management  
Finance and Insurance Department

**Gino Gandolfi**

Full Professor, University of Parma  
SDA Bocconi School of Management  
Finance and Insurance Department

**Maria-Gaia Soana**

Assistant Professor, University of Parma  
SDA Bocconi School of Management  
Finance and Insurance Department

### **Abstract<sup>1</sup>**

*To date, few contributions have applied theory of planned behavior (TPB) to financial decisions. The paper aims to investigate the applicability of TPB in predicting both the intentions of retail customers to apply for medium/high-risk financial products and the intention of advisors to offer such products. We also test the role of financial education in affecting retail investor and consultant decisions. Our results suggest that each TPB construct contributes to explaining the variance of the retail customer intention to apply for a medium/high-risk financial product, while financial literacy has no predictive power. TPB also appears to have power to explain consultant behavior intentions. Advisors appear more likely to offer medium/high-risk financial products when they have previous experience in this field, perceive control on their selling activity, feel under pressure from people who are important to them, feel confident and have a high financial literacy.*

**Keywords:** theory of planned behavior, financial literacy, financial investments, financial decisions; behavioral decision.

**JEL Codes:**A20, A29, D10, D14

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## **1. Introduction**

The motivations underlying customer and advisor financial decisions are complex and heterogeneous. In recent decades, retail investors have become increasingly active on financial markets, and market participation has been accompanied or even promoted by the advent of new financial products and services. Nowadays individuals are increasingly expected to take command of their financial decisions (Vlaev & Chater, 2007). Such decisions are taken based on different factors, among which financial literacy is believed to play an important role.

Some authors studied the impact of individual financial literacy (Cheng & Volpe, 1998; Lusardi and Mitchell, 2007a, 2007b, 2008, 2011; Lusardi et al., 2010; Filotto & Nicolini, 2010; Atkinson & Messy, 2012; Bongini et al., 2012; Nicolini et al., 2013; Bongini et al., 2016) on different kinds of decision. Their results show that people with a low financial literacy are less able to plan for retirement (Lusardi & Mitchell, 2007; Van Rooij et al., 2011), are more likely to take up high-interest mortgages (Moore, 2003) and often have problems with debt (Lusardi & Tufano, 2009). So financial literacy appears to be a very important factor in explaining retail investor financial decisions. Moreover, professional advice has become an indispensable tool for individuals. Advisors are in fact a point of reference for people wishing to invest in particular financial products and are therefore required to keep abreast of developments in order to meet customer needs and expectations.

Since the international financial crisis of 2008, interest rates in the US and in the Eurozone markets have remained very low. This has had a significant impact on financial choices of both individuals and professionals. On the one hand, many traditionally risk-averse investors have started to sign up to medium/high-risk financial products in order to have significant positive returns. On the other hand, financial advisors have had to rethink their sales policy in order to offer increasing numbers of medium/high-risk investments to their customers.

In this context, it is particularly interesting to investigate the reasons underlying retail customer and advisor financial decisions. In this research, we used the theory of planned behavior (TPB), a theory used widely in different fields to test the variables affecting individual behaviors (Ajzen & Driver, 1992; Perugini & Bagozzi, 2001; Conner et al., 2002; Archer et al., 2008; Kobbeltvedt & Wolff, 2009; Han et al., 2010; Han, 2015).

Our paper aims to investigate the applicability of TPB in predicting both the intentions of retail customer to apply for medium/high-risk financial products and the intention of advisors to offer such products. In the context of this model, we also test the role of financial education in retail investor and consultant decisions.

The contributions of the study to previous literature are manifold. First, this is the first paper to date focusing on factors affecting the willingness of advisors to offer financial products to their retail clients. Second, we used a very large sample, consisting of 636 investors and 1,807 consultants. Third, to our knowledge, our paper is the first to study the role played by financial literacy in explaining both the intentions of retail customers to apply for financial investments and the intentions of their advisors to offer such investments. So far, literature has investigated only the impact of financial literacy on the economic behavior of individuals and their need of financial advisory. This paper however examines whether advisors with a higher financial literacy feel more confident in offering medium/high-risk financial products to their customers, thus testing whether better financial literacy is a tool for improving advice. Finally, the study shows one of the few applications of TPB to investment choices, thus providing a test of the contribution of this theory to the understanding of financial decisions.

### **1.1 Theory of planned behavior and financial decisions**

The study focuses on two main strands of literature: (i) the role of TPB in explaining the reasons underlying individual financial decisions and (ii) the role of financial literacy in determining financial choices.

TPB is a theoretical framework that explains individual decision-making processes, and was proposed by Ajzen (1985) as an evolution of the theory of reasoned action (TRA) (Fishbein & Ajzen, 1975). According to TRA, an individual's intention to act depends on two variables: attitude toward the behavior and subjective norms. Attitude toward a behavior is the degree to which performance of the behavior is positively or negatively evaluated, and a subjective norm is the perceived social pressure to engage or not to engage in a behavior (Colman, 2015). Intention is an indication of a person's readiness to perform a given behavior, and is considered to be the immediate antecedent of behavior. Compared to the TRA, Ajzen (1985) characterized TPB as having a third important item affecting intention to behavior: perceived behavior control. This is people's perceptions of their ability to perform a given behavior. It concerns beliefs about the presence of control factors that may facilitate or hinder the behavior.

TPB has been widely used in various research areas, including medicine (Conner et al., 2002; Archer et al., 2008; Hagger & Chatzisarantis, 2009; McEachan et al., 2011), marketing (King et al., 2008; Crespo & del Bosque, 2008; Hansen, 2008; Yaghoubi & Bahmani, 2010), tourism (Quintal et al., 2009; Han et al., 2010; Han, 2015), informatics (Shih & Fang, 2004; George, 2004; Gopi & Ramayah, 2007; Lee, 2009) and human behavior in general (Kobbeltvedt & Wolff, 2009; Perugini & Bagozzi, 2011). Previous studies show a positive and significant impact of attitude, subjective norms and perceived control on individual intention to behavior.

So far, few contributions have applied TPB to financial decisions. Shih and Fang (2004) study the extent of internet banking using a sample of 425 Taiwanese consumers. Their results show that both TRA and TPB yield insights on bank customer intentions to use internet banking. Moreover, Lau et al. (2001), Gopi and Ramayah (2007) and Lee (2009) successfully apply TPB to investigating the intention of investors to trade online and to use online banking.

Specifically focusing on investment decisions, East (1993) expands TPB by introducing past behavior as a fourth item that could affect the intention to behavior, as previously suggested by Bentler and Speckart (1979) and Bagozzi (1981). East (1993) tests the theory on three different samples of 54, 75, and 145 students and finds that the application for shares, i.e. individual behavior, is accurately predicted by measured intention. Intention is in turn explained by attitude, subjective norms, perceived control, and past behavior. More specifically, the study demonstrates the strong influence of friends and relatives on individual financial intention.

Finally, Alleyne and Broome (2010) also apply TPB to analyzing items affecting investment intentions. As suggested by Sitkin and Weingart (1995), Alleyne and Broome (2010) add a fourth variable to the three items proposed by Ajzen (1985): risk propensity. Their results show that attitude, subjective norms, perceived behavioral control and risk propensity are all significant predictors of investment intentions.

Based on the existing literature, we introduce the following hypotheses concerning the impact of TPB on the intention to behavior:

*H<sub>1</sub>: Attitude has a positive significant impact on the investment intention of retail customers;*

*H<sub>2</sub>: Subjective norms have a positive significant impact on the investment intention of retail customers;*

*H<sub>3</sub>: Perceived behavioral control affects positively the investment intention of retail customers;*

*H<sub>4</sub>: Past behavior affects positively the investment intention of retail customers.*

So far, few papers have applied TPB to advisor behavior. The existing studies focus on ethical or unethical behavior of consultants in offering financial and insurance products (Dubinsky & Loken, 1989; Kurland, 1995; Haron et al., 2011; Shahriar Ferdous & Polonsky, 2013). Kurland (1995) applies both TRA and TPB to the ethical behavior of insurance advisors. His sample consists of 245 US insurance professionals, and he finds that TPB has higher explanatory power than TRA for insurance consultants' ethical behavior. Moreover, Haron et al. (2011) investigate the relationship between supervision, role ambiguity, sales targets and unethical behavior on a sample of 246 insurance advisors, taking into account the role of attitude, subjective norms and perceived behavioral control in mediating unethical behavior. Their results show that the three TPB items partially mediate the relationship between supervisory influence, role ambiguity and sales targets on intentions to perform unethical behavior.

To our knowledge, no studies have yet analyzed the variables affecting advisor intention to offer financial products to their clients. In order to fill this gap, we introduce the following hypotheses:

*H<sub>5</sub>: Attitude has a positive significant impact on advisor intention to offer medium/high-risk financial products;*

*H<sub>6</sub>: Subjective norms have a positive significant impact on advisor intention to offer medium/high-risk financial products;*

*H<sub>7</sub>: Perceived behavioral control affects positively advisor intention to offer medium/high-risk financial products;*

*H<sub>8</sub>: Past behavior affects positively advisor intention to offer medium/high-risk financial products.*

## **1.2 Financial literacy and financial decisions**

Previous literature has partially analyzed the role of financial literacy in investment decisions (Bernheim, 1995, 1998; Hilgert & Hogarth, 2003; Mandell, 2006; Delavande et al., 2008; Lusardi, 2008; Willis, 2009; Mandell & Klein, 2009; Muller & Weber, 2010; Lee et al., 2012; Jappelli & Padula, 2013).

Bernheim (1995) demonstrates that most US households lack basic financial literacy skills and that they use crude rules of thumb when engaging in saving behavior. Calvet et al. (2007, 2009) and Agarwal et al. (2009) confirm these results, noting that youth, old age, immigrant status and poverty are often associated with poor financial literacy, and find that bank customers in these categories usually make the worst mistakes in financial decisions. Furthermore, Moore (2003), Campbell (2006), Lusardi and Tufano (2009) and Gathergood (2012) show that households with low financial literacy take out more costly mortgages, have more problems with debt repayment at times of falling interest rates, and incur higher transaction costs, paying higher fees and using higher-cost borrowing, than other customers.

Moreover, Van Rooij et al. (2012) study the impact of financial literacy on the participation in the stock market of 1,508 households. Their results show that financial literacy affects financial decision-making: those with low literacy are much less likely to invest in stocks, and financial knowledge increases the likelihood of investing in the stock market, allowing individuals to benefit from the equity premium.

This evidence is confirmed by Hilgert and Hogarth (2003), who find a significant direct relationship between retail customer financial literacy and profitable financial decisions.

Finally, Guiso and Jappelli (2008) focus on poor financial literacy as one potential factor in explaining lack of portfolio diversification, and find that it is in fact the main explanatory variable.

Overall, most previous studies suggest that financial literacy plays a role in influencing customer financial decision making and the causality of the relation goes from knowledge to behavior (Lusardi & Mitchell, 2014). In a recent contribution, Kennedy (2013) study the use of credit debt card among the US college students. Author underlines that the credit card debt among college students is a growing problem in the US. For these reason, he tries to analyze the predictors of the college students' behaviors. Kennedy (2013) uses also the construct of financial literacy. Findings show that all the TPB constructs impact positively on the intention to use a credit debt cards among college students; while financial literacy failed to predict intention to use credit cards.

In line with this evidence, we introduce the following hypothesis:

*H<sub>9</sub>: Financial literacy has a positive impact on the investment intention of retail customers.*

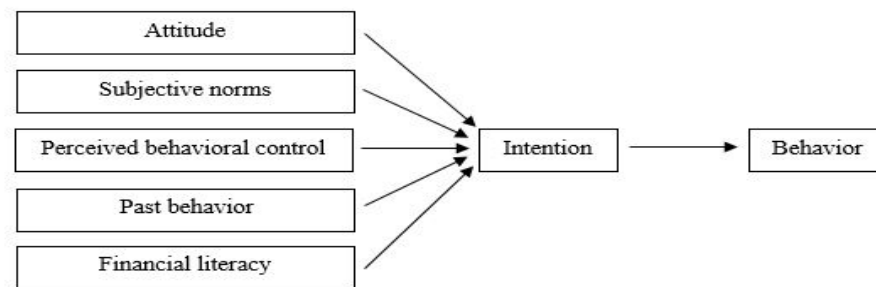
Individual financial illiteracy would not be an issue if retail investors sought advice from qualified sources, such as bankers, financial or insurance consultants, who should not be subject to financial mistakes (Shapira & Venezia, 2001; Bluethgen & Gintschel, 2008). As noted by Collins (2012), financial advisors have a key role in helping customers in various ways: supplying information, countering bias, which lead to common mistakes, facilitating acquisition of knowledge, overcoming affective issues and mediating joint decision making. In addition, people solicit advice for many reasons, one of which is to improve the quality of their judgments and decisions (Sniezek et al., 2004).

Debbich (2015) shows that customers with a higher financial literacy are more able to ask for professional advice. In particular, consultants are found to have a regressive effect, as they increase the level of information of financially sophisticated customers and decrease that of less financially literate customers. In addition, Lusardi and Mitchell (2011) and Calcagno and Monticone (2015) demonstrate the positive impact of financial literacy of retail investors on the demand for financial advice. In particular, customers with higher financial literacy perceive the need for professional advice, while individuals with low literacy tend not to recognize their ignorance, thus failing to seek better information (Collins, 2012). To date, the literature has concentrated on the impact of professional advisory services on customer financial decisions, highlighting the positive contribution of specialized consultants in reducing investor financial mistakes. To our knowledge, no study on the effects of advisor financial literacy on their behavior has yet been made. In order to fill this gap, we introduce the following hypothesis:

*H<sub>10</sub>: Financial literacy shows a positive effect on advisor intention to offer medium/high-risk financial products.*

## **2. The Role of Theory of Planned Behavior and Financial Literacy in Predicting Customer Financial Decisions**

Study 1 aims to investigate the determinants of retail customer financial decisions, as shown in Figure 1.

**Figure 1: The Theory of planned behavior model**

The analysis is conducted in two steps. First, we examine the applicability of TPB in predicting investment intentions of retail customers. Second, we test the role of financial knowledge in influencing investor financial decisions.

### 2.1 Sample and Procedure

Data were collected by e-mail from 15<sup>th</sup> July to 30<sup>th</sup> July 2015. We asked respondents to fill in a structured questionnaire about financial decisions and financial literacy. The respondents were Italian retail customers of a multinational insurance company presents in more than 60 countries and leader on the European retail insurance market.

The customers surveyed had bought a unit-linked financial product before the date they answered the questionnaire. Our analysis tests the influence of attitude, subjective norms, perceived behavioral control, past behavior and financial literacy (independent variables) on retail customer intention to apply for a medium/high-risk financial product (dependent variable). In total, 636 investors participated: 222 females and 414 males, with a mean age of 53.79 years.

### 2.2 Measures

The TPB constructs (intention, attitude, subjective norms, perceived behavioral control and past behavior) were written following the recommendations of Ajzen (2002) and East (1993). The items of each construct were combined to form an average score. The TPB section of the questionnaire used a scale with seven positions, so the value of each item ranges from 1 to 7. We used a 7-point Likert bipolar scale, rather than a 5-point scale, as it is more sensitive (Guyatt & Jaeschker, 1990; Diefenbach et al., 1993), more appropriate for electronically-distributed questionnaires (Finstad, 2010), more useful for data including positive or negative values and is generally considered to be best practice to ensure sufficient differentiation. Internal reliability of each construct is tested by Cronbach's alpha scores, which always appear higher than the acceptable value 0.70 (Nunnally, 1978), as shown in Table 1.

*Intention* ( $I_c$ ). The intention to buy a medium/high-risk financial product is the dependent variable. It is measured by the following two items: "I will apply for a financial product that does not provide a guaranteed capital" and "I intend to apply for a financial product that does not provide a guaranteed capital". The value of answers ranges from 1 (extremely unlikely) to 7 (extremely likely).

*Attitude* ( $A_c$ ) refers to the degree to which a respondent has a favorable or unfavorable evaluation of application for a medium/high-risk financial product. The construct is estimated by four items. Customers answered the following questions: "For me, applying for a financial product that does not provide a guaranteed capital" is pointless/helpful, unprofitable/profitable, unrewarding/rewarding, unpleasant/pleasant. All the bipolar evaluations were anchored from 1 (extremely pointless / unprofitable / unrewarding / unpleasant) to 7 (extremely helpful / profitable / rewarding / pleasant).

*Subjective norms* ( $SN_c$ ) refer to the belief about whether most people approve or disapprove of the behavior. It is measured by the following two items: "Most people who are important to me think that I should apply for a financial product that does not provide a guaranteed capital" and "People who influence what I do think that I should apply for a financial product that does not provide a guaranteed capital". The values of answers range from 1 (extremely unlikely) to 7 (extremely likely).

*Perceived behavioral control* (PBC<sub>c</sub>) refers to the respondent's perception of the ease or difficulty of applying for a medium/high-risk financial product. The construct is estimated by the following two items: “If I want to apply for a financial product that does not provide a guaranteed capital I can easily do so” and “It is mostly up to me whether or not I apply for a financial product that does not provide a guaranteed capital.” All items are measured using a 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree).

*Past behavior* (PB<sub>c</sub>) is measured by two items. The first question is “Applying for a high-risk financial product that does not provide a guaranteed capital is something I have done”. The item is measured using a 7-point Likert scale, ranging from 1 (extremely rarely) to 7 (extremely often). The second question is “I have a lot of experience of applying for a financial product that does not provide a guaranteed capital.” The item is measured using a 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree).

**Table 1: Descriptive statistics and Cronbach's alpha (customers)**

	Mean	SD	Cronbach's alpha
Intention	7.83	2.77	0.87
Attitude	16.12	4.81	0.78
Subjective norms	6.60	2.70	0.79
Perceived behavioral control	8.73	3.13	0.74
Past behavior	5.99	2.52	0.74

*Financial literacy* (FL<sub>c</sub>) is estimated by the three items suggested by Lusardi and Mitchell (2005, 2008), shown in Appendix 1. They each test a basic concept of financial literacy: interest rate (Question 1), inflation (Question 2) and portfolio diversification (Question 3). Each question requires a multiple choice answer where only one response is correct. As we assigned 1 point to correct answers, and 0 otherwise, the value of the construct ranges from 0 to 3. The average value of the variable is 2.72, while standard deviation is 0.58.

The correlation matrix of the variables in Table 2 indicates no high Pearson Rs among independent variables, i.e. they are suitable for further analysis.

**Table 2: Correlation matrix (Pearson R) of the variables in the model (customers)**

	Attitude	Subjectivenorms	Perceivedbehavioral control	Pastbehavior	Financial literacy
Attitude	1				
Subjectivenorms	.221**	1			
PerceivedBehavioral control	.274**	.375**	1		
Pastbehavior	.231**	.474**	.590**	1	
Financial literacy	.112**	.109**	.262**	.180**	1

\*\* All correlations significant at p= 0.01 (two-tailed)

### 2.3 Design and Statistics

An OLS step-wise multiple regression model is applied in order to investigate the separate contributions made by attitude (A<sub>c</sub>), subjective norms (SN<sub>c</sub>), perceived behavioral control (PBC<sub>c</sub>), past behavior (PB<sub>c</sub>) and financial literacy (FL<sub>c</sub>) to predicting customer intention (I<sub>c</sub>) to apply for a medium/high-risk financial product (Equation 1).

$$I_c = \alpha + \beta_1 A_c + \beta_2 SN_c + \beta_3 PBC_c + \beta_4 PB_c + \beta_5 CFL_c \quad (1)$$

Results are shown in Table 3.

**Table 3: Step-wise multiple regression analysis (customers)**

	Model 1		Model 2		Model 3		Model 4		Model 5	
	Coeff.	Std Error (T)	Coeff.	Std Error (T)	Coeff.	Std Error (T)	Coeff.	Std Error (T)	Coeff.	Std Error (T)
const	2.53***	0.18 (13.76)	1.12***	0.16 (6.87)	0.74***	0.17 (4.42)	0.71***	0.17 (4.21)	0.45	0.23 (1.96)
A	0.34***	0.04 (7.83)	0.19***	0.04 (5.35)	0.14***	0.04 (4.03)	0.14***	0.04 (3.91)	0.13***	0.04 (3.85)
SN			0.62***	0.03 (19.47)	0.55***	0.03 (16.77)	0.51***	0.03 (14.93)	0.51***	0.03 (14.95)
PBC					0.18***	0.03 (6.43)	0.14***	0.03 (4.17)	0.13***	0.03 (3.81)
PB							0.13***	0.04 (2.30)	0.12***	0.04 (2.96)
FL									0.11	0.07 (1.58)
Adj R <sup>2</sup>	0.09***		0.43***		0.46***		0.47***		0.47***	
$\Delta R^2$			0.34***		0.03***		0.01**		0.00	

\*\*\* p < 0.001      \*\* p < 0.01

## 2.4 Results

As shown in Table 3, the five constructs were inserted into the step-wise multiple regression analysis. The results suggest that each TPB construct contributes to explaining the variance of the retail customer intention to apply for a medium/high-risk financial product. Of all the variables, subjective norms appears to be the most important factor leading respondents to buy a unit-linked product, as its coefficient is always high (0.62 in Model 2, 0.55 in Model 3, 0.51 in Models 4 and 5) and statistically significant. Specifically, the three traditional TPB constructs described by Ajzen (1985) and tested in Model 3 explain 46% of the variance ( $p < 0.001$ ) of the dependent variable. Attitude, subjective norms and perceived behavioral control are in fact significant predictors, as their coefficients are equal to 0.14 ( $p < 0.001$ ), 0.55 ( $p < 0.001$ ) and 0.18 ( $p < 0.001$ ) respectively. Adding the variable past behavior into Model 4, the explained variance increases by only 1% ( $p < 0.01$ ), and altogether 47% of the variance of the intention to apply for a high-risk financial product is explained ( $p < 0.001$ ). Hypotheses 1, 2, 3 and 4 can thus be accepted. Finally, results of Model 5 show that financial literacy cannot predict customer intention to apply for a medium/high-risk financial product. For this reason, Hypothesis 9 is rejected.

## 3. The Role of Theory of Planned Behavior and Financial Literacy in Predicting the Selling Behavior of Advisors

Study 2 aims to investigate the determinants of the selling behavior of advisors, according to the model shown in Figure 1. The analysis is conducted in two steps. First, we examine the applicability of TPB in predicting the intention of professional advisors to offer their customers medium/high-risk financial products. Second, we test the role of financial education in influencing this intention.

### 3.1 Sample and Procedure

Data were collected by a structured questionnaire, which was sent by e-mail from 15<sup>th</sup> July to 30<sup>th</sup> July 2015. The respondents are Italian advisors of a multinational insurance company, who had sold at least one unit-linked product by the date they answered the survey. Our analysis tests the influence of attitude, subjective norms, perceived behavioral control, past behavior and financial literacy (independent variables) on advisor intention to offer a medium/high-risk financial product (dependent variable). In total 1,807 respondents participated: 530 females and 1,277 males, with a mean age of 40.8 years.

### 3.3 Measures

The variables determining the TPB constructs, i.e. intention ( $I_{ic}$ ), attitude ( $A_{ic}$ ), subjective norms ( $SN_{ic}$ ), perceived behavioral control ( $PBC_{ic}$ ) and past behavior ( $PB_{ic}$ ) were written, calculated and aggregated as described in Section 2.2, except that the verb “apply for” was substituted by the verb “offer” in each question. Internal reliability of each construct is tested by Cronbach’s alpha scores, which always appear higher than the acceptable value 0.70 (Nunnally, 1978), as shown in Table 4.

**Table 4: Descriptive statistics and Cronbach’s alpha (advisors)**

	Mean	SD	Cronbach’s alpha
Intention	10.38	2.16	0.80
Attitude	19.56	4.25	0.73
Subjective norms	8.98	1.99	0.70
Perceived behavioral control	10.33	2.07	0.70
Past behavior	8.45	2.25	0.74

Financial literacy (FL<sub>ic</sub>) is estimated by seven sophisticated financial literacy items suggested by Lusardi (2008) and Van Rooij et al. (2012), shown in Appendix 2. Each question is multiple-choice answer, and only one response is correct. As we assigned 1 point to correct answers and 0 otherwise, the value of the construct ranges from 0 to 7. Selected items aim to test the following sophisticated financial literacy concepts: knowledge of financial assets, such as stocks (Questions 1 and 4), mutual funds (Question 2) and bonds (Question 3), the understanding of risk diversification (Questions 5 and 6) and the relationship between bond prices and interest rates (Question 7). The average value of FL<sub>ic</sub> is 6.08, while standard deviation is 1.06.

The correlation matrix of the variables in Table 5 indicates no high Pearson Rs among independent variables, i.e. they are suitable for further analysis.

**Table 5: Correlation matrix (Pearson R) of the variables in the model (advisors)**

	Attitude	Subjective norms	Perceived control	behavioral	Pastbehavior	Financial literacy
Attitude	1					
Subjectivenorms	.326**	1				
Perceivedbehavioral control	.359**	.446**	1			
Pastbehavior	.335**	.516**	.511**	1		
Financial literacy	.068**	.059*	.125**	.107**	1	

\*\* Correlations significant at p= 0.01 (two-tailed)

\* Correlations significant at p= 0.05 (two-tailed)

**3.4 Design and Statistics**

An OLS step-wise multiple regression model is applied in order to investigate the separate contributions made by attitude (A<sub>ic</sub>), subjective norms (SN<sub>ic</sub>), perceived behavioral control (PBC<sub>ic</sub>), past behavior (PB<sub>ic</sub>) and financial literacy (FL<sub>ic</sub>) to predicting advisor intention (I<sub>ic</sub>) to offer customers a medium/high-risk financial product (Equation 2).

$$I_{ic} = \alpha + \beta_1 A_{ic} + \beta_2 SN_{ic} + \beta_3 PBC_{ic} + \beta_4 PB_{ic} + \beta_5 CFL_{ic} \quad (2)$$

Results are shown in Table 6.

**Table 6: Step-wise multiple regression analysis (advisors)**

	Model 1		Model 2		Model 3		Model 4		Model 5	
	Coeff.	Std Error (T)	Coeff.	Std Error (T)	Coeff.	Std Error (T)	Coeff.	Std Error (T)	Coeff.	Std Error (T)
const	3.02***	0.11 (28.04)	1.58***	0.11 (13.79)	0.76***	0.12 (6.47)	0.73***	0.11 (6.39)	0.28	0.15 (1.91)
A	0.44***	0.02 (20.62)	0.30***	0.02 (14.74)	0.21***	0.02 (11.06)	0.19***	0.02 (9.99)	0.19***	0.02 (9.97)
SN			0.48***	0.02 (22.37)	0.34***	0.02 (16.00)	0.26***	0.02 (11.84)	0.27***	0.02 (12.00)
PBC					0.36***	0.02 (16.30)	0.28***	0.02 (13.11)	0.28***	0.02 (12.77)
PB							0.21***	0.02 (10.20)	0.20***	0.02 (10.00)
FL									0.08***	0.02 (4.87)
Adj R <sup>2</sup>	0.19***		0.37***		0.45***		0.48***		0.49***	
ΔR <sup>2</sup>			0.18***		0.08***		0.03***		0.01***	

\*\*\* p < 0.001



### 3.5 Results

Each construct in the step-wise multiple regression analysis contributes to explaining the variance of advisor intention to offer a medium/high-risk financial product to customers. First, attitude appears to be a significant predictor, as its coefficient is equal to 0.44 ( $p < 0.001$ ) in Model 1, where adjusted  $R^2 = 19\%$ . Second, adding the variable subjective norms into Model 2, the explained variance increases by 18% ( $p < 0.001$ ). Third, the three traditional TPB constructs described by Ajzen (1985), i.e. attitude, subjective norms and perceived behavioral control, and tested in Model 3, are all shown to be significant predictors, thus explaining altogether 45% of the variance in advisor intention to offer a medium/high-risk financial product to customers. When past behavior is inserted into the equation, as suggested by East (1993), it appears to be a significant independent variable, as its coefficient is equal to 0.21 ( $p < 0.001$ ) and the adjusted  $R^2$  in Model 4 reaches the value of 48%. Finally, Model 5 shows that financial literacy too can predict advisor intention to offer a medium/high-risk financial product to customers. In this context, Hypotheses 5, 6, 7, 8 and 10 can be accepted.

### 4. General Discussion and Conclusions

The idea behind the present study was to investigate the reasons underlying retail customer and advisor financial decisions. For this purpose, we used TPB (Ajzen, 1985), a well-established theoretical framework which has been validated over several years, yielding sound results in predicting behavior in different fields, including financial decision-making. Ajzen's theory has inspired researchers to include supplementary measures in addition to the traditional variables pertaining to financial decision behavior (East, 1993; Alleyne & Broome, 2010). As previous literature (Hilgert & Hogart, 2003; Mandell, 2006; Delavande et al., 2008; Guiso & Jappelli, 2008; Lusardi, 2008; Willis, 2009; Mandell & Klein, 2009; Muller & Weber, 2010; Van Rooij et al., 2012; Jappelli & Padula, 2013) shows that people with higher financial literacy are able to take better financial decisions on investments, portfolio diversification and retirement, we introduce the hypotheses that financial knowledge could also help to explain customer and advisor financial decisions.

In this context, the paper first studies whether TPB can be used to predict retail customer intention to apply for medium/high-risk financial products and the intention of advisors to offer such products. Second, we test the role of financial literacy in affecting retail investor and financial consultant decisions. Our sample consists of 636 Italian retail customers and 1,807 Italian financial advisors.

For retail investors, we find that all TPB variables have a positive and significant impact on individual intention to apply for a financial product. This evidence is consistent with previous literature (East, 1993; Alleyne & Broome, 2010). More precisely, retail customer intention to invest in a medium/high-risk financial product appears to be mainly influenced by friend and relative opinions, as suggested by East (1993). Attitude and perceived behavioral control are also found to have a positive impact on investor intentions to behavior, as was previously shown by Shih and Fang (2004), Lee (2009), Lau et al. (2001) and Gopi and Ramayah (2007). Moreover, our results show that retail customers find it easy to invest in a medium/high-risk financial product when they have already invested in similar products in the past, as suggested by East (1993).

Finally, the level of financial literacy of retail customers does not significantly affect their intention to apply for a medium/high-risk financial investment (as in Kennedy, 2013). This result conflicts with our expectations. However, in our opinion, the lack of a statistically significant relationship between financial education level of retail customers and their investment intentions could be explained by the high financial literacy level of our respondents. About 78% of them correctly answered all three financial education questions, a very high percentage compared to the percentages of 34% and 60% found by Lusardi and Mitchell (2008, 2011). Precisely because the average level is high, we suspect that financial education may not be a good predictor of investor intention to behavior. All our respondents are customers of professional advisors, and this is indirect evidence that financial advice is mainly demanded by knowledgeable investors, as hypothesized by Lusardi and Mitchell (2011) and Calcagno and Monticone (2015).

In the second part of the study, we analyze the predictors of advisor intention to offer a medium/high-risk financial product to customers. Our results suggest that TPB has high explanatory power for the intention of consultants to behavior. Specifically, financial advisors appear to be more likely to offer medium/high-risk financial products when they have previous experience of doing so, perceive control on their selling activity, feel outside pressure from people who are important to them (including their superiors) and feel confident. In addition, financial literacy shows a positive and significant impact on consultant intention to behavior.

This means that advisors with greater financial literacy are more likely to offer medium/high-risk financial products to their customers. For this reason, financial literacy can be seen as an additional tool that allows financial consultants to feel more confident in dealing with complex investments.

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### Appendix 1

Retail customer survey: basic financial literacy questions (source: Lusardi and Mitchell, 2005, 2008)

1. Suppose you had 100 euros in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow? (a) more than 102 euros; (b) exactly 102 euros; (c) less than 102 euros; (d) do not know; (e) refuse to answer.
2. Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account? (a) more than today; (b) exactly the same as today; (c) less than today; (d) do not know; (e) refuse to answer.
3. Do you think that the following statement is true or false? "Buying a single company stock usually provides a safer return than a stock mutual fund". (a) true; (b) false; (c) do not know; (d) refuse to answer.

### Appendix 2

Advisor survey: sophisticated financial literacy questions (source: Lusardi, 2008; Van Rooij et al., 2012)

1. What happens if somebody buys the stock of firm B in the stock market? (a) he owns a part of firm B; (b) he has lent money to firm B; (c) he is liable for firm B debt; (d) none of the above; (e) do not know; (f) refuse to answer.
2. Which of the following statements is correct? (a) once one invests in a mutual fund, one cannot withdraw the money in the first year; (b) mutual funds can invest in several assets, for example invest in both stocks and bonds; (c) mutual funds pay a guaranteed rate of return which depends on their past performance; (d) none of the above; (e) do not know; (f) refuse to answer.
3. What happens if somebody buys a bond of firm B? (a) he owns a part of firm B; (b) he has lent money to firm B; (c) he is liable for firm B debt; (d) none of the above; (e) do not know; (f) refuse to answer.
4. Normally, which asset displays the highest fluctuations over time? (a) savings accounts; (b) bonds; (c) stocks; (d) do not know; (e) refuse to answer.
5. When an investor spreads his money among different assets, does the risk of losing money: (a) increase; (b) decrease; (c) stay the same; (d) do not know; (e) refuse to answer.
6. True or false? Buying a company stock usually provides a safer return than a stock mutual fund. (a) true; (b) false; (c) do not know; (d) refuse to answer.
7. If the interest rate falls, what should happen to bond prices? (a) rise; (b) fall; (c) stay the same; (d) none of the above; (e) do not know; (f) refuse to answer.