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# **Exploring intentions towards human, social, and financial capital investments in a turbulent economic environment**

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# **Exploring intentions towards human, social, and financial capital investments in a turbulent economic environment**

***Abstract:** This paper applies the Theory of Planned Behaviour in order to understand intentions to create new ventures or participate in existing ones, by investing human, social and financial capital in a turbulent economic environment, such as the one in Greece. We hypothesise that subjective norms relate to investment intentions and that individual attitudes and perceived behavioural control over the investment mediate this relationship. We also propose that norms, attitudes and control interact in explaining investment intentions in such a way that intentions are stronger when positive norms and attitudes coexist with high levels of control. Hypotheses are tested by means of a cross-sectional quantitative study that was conducted in Greece (N =203). Bootstrap analyses support our mediation hypotheses by showing that norms relate positively to investment intention via their associations with positive attitudes and high control. In addition, regression analyses show that norms, attitudes and control interact in explaining intentions. However, contrary to expectations, results show that positive attitudes towards investment boost investment intentions, in conditions where norms are positive but control is low.*

***Keywords:** Greece, investment intention, mediation, moderation, Theory of Planned Behaviour*

## Introduction

Previous research has extensively focused on the role of formal investors as venture capitalists in the entrepreneurial process (de Bettignies and Brander, 2007). Still, in an environment of high uncertainty such as the one experienced during the financial crisis, attracting venture capital is a success in its own right. In such circumstances, the scarcity of venture capital could be substituted by informal investing (Burke *et al.*, 2010). Scholars focus on informal investors (business angels, friends and family) as alternative sources of financial support (Murnieks *et al.*, 2015). However, in countries which have deeply felt the impact of the global financial crisis, such as Greece, informal financial capital is also scarce. Austerity measures and increasing taxes have a major impact on the available financial liquidity available for investment. This may leave little room for considering investing, since friends and family simply cannot afford to do so, while business angels may become very cautious and risk-averse (GEM, 2015).

When faced with such bleak prospects, an entrepreneur could consider alternative ways of resourcing new ventures. Instead of just seeking financial capital, entrepreneurs may seek the support of individuals who are interested in investing their human and social capital in new or existing ventures that they truly believe in (Papagiannidis and Li, 2005; Palamida *et al.*, 2015). This is not to say that financial capital can be replaced, but that, under conditions of financial scarcity, the role of human and social capital investment may be of equal or higher importance. Under conditions of high uncertainty, there should be a shift of focus on alternative investors who could potentially act as entrepreneurs by following an effectuation process (Sarasvathy, 2001; Lingelbach *et al.*, 2015), concentrating pragmatically on the available resources that they possess and are willing to invest in a new or existing venture (Palamida *et al.*, 2015).

Based on the above, a central research question is what drives potential alternative investors to engage in new or existing venture creation. Responding to this question is

important from a theoretical point of view because it will help unravel the mechanisms that form the intention of alternative investors. From a practical point of view, this knowledge will guide policies that will inform entrepreneurial activities in times of severe constraints. Given that the Theory of Planned Behaviour (TPB) (Ajzen, 1991; Ajzen and Fishbein, 2005) has been shown to be a valid theoretical framework in explaining entrepreneurial investment intentions (van Gelderen *et al.*, 2008; Yang *et al.*, 2015), we adopt this theory and test its external validity in understanding alternative investment intentions in a turbulent economic context. Following the most recent research approaches to the TPB (Liñán *et al.*, 2013; Liñán *et al.*, 2011), we investigate whether investors' Personal Attitude(s) (PA) and Perceived Behavioural Control (PBC) with regard to the investment mediate the relationship between Subjective Norms (SN) and alternative Investment Intention (II). Furthermore, we examine how these three core antecedents interact in explaining alternative investment intention. This is important because it will help clarify under which specific conditions alternative investment intentions are more likely to occur.

After the introduction, the paper continues by presenting the relevant literature that underpins our model and the associated hypotheses. Then, we present the methodology and results, before discussing our findings. The paper concludes with the limitations of this research and suggestions for future research.

## Literature Review

### Theory of Planned Behaviour

The TPB (Ajzen, 1991; Ajzen and Fishbein, 2005) is adopted for analysing alternative investment intentions for three reasons. Firstly, considering entrepreneurship as a societal phenomenon, a model that incorporates social influences is considered to be more appropriate than other models that do not. Secondly, compared to other models, the theoretical specification of the TPB is more detailed and consistent (van Gelderen *et al.*, 2008). Finally, research in diverse disciplines confirms that the three main antecedents of intentions according to the TPB (i.e., attitudes, norms and control) predict intention and explain a wide range of human behaviours successfully (Armitage and Conner, 2001; Segal *et al.*, 2005). Previous studies applied the TPB in order to predict entrepreneurial intentions successfully (Liñán *et al.*, 2011; de Jong, 2013; Kautonen *et al.*, 2013). We extend these studies by focusing on alternative investment intentions.

Research on entrepreneurial intentions in Greece has examined the effect of demographic, motivational and environmental factors on intentions without incorporating the TPB (Fafaliou, 2010; Apergis and Fafaliou, 2014). Even in cases where scholars attempted to integrate some (or similar) aspects of the TPB (Agapitou *et al.*, 2010; Kakouris and Georgiadis, 2010), a full application of the theory with the use of valid measures was still missing. To our knowledge, intentions to create or grow a new venture by investing resources that can be directly applied to the venture have not been examined by using a robust theoretical framework like the TPB in the Greek context.

For the rest of the paper, the term “*investment*” refers to alternative investments, where individuals from the general public invest human, social and financial capital in order to participate in the creation or growth process of a venture that they truly believe in (Palamida *et*

*al.*, 2015), while “*investment intention*” reflects an individual’s intention to do so at some point in the future.

## **Main Effects**

Based on the main assumptions of the TPB (Ajzen, 1991; Ajzen and Fishbein, 2005), the more positive an individual’s attitudes towards engaging in entrepreneurial activities are, the more favourable the subjective norms, and the more capable one feels about engaging in entrepreneurial activities (i.e., high sense of control over the activity), the stronger one’s intention to engage in entrepreneurial activities is (Schlaegel & Koenig, 2014; Zapkau, Schwens, Steinmetz, & Kabst, 2015). In the investment context, this implies that individuals who evaluate their engagement in investment activities positively form a positive attitude toward the investment and are more likely to develop a strong intention to engage in investment activities. Individuals’ intentions towards investments may not only be associated with their personal attitudes, but also with the perceptions of their close social circle. The perceptions of various social groups matter to individuals as they place a great value on the opinion of these group members. Individuals whose social circle is positive about their potential to invest their resources in new ventures perceive social pressures to engage in investment activities and, thus, are more inclined to engage in such activities. Individuals possessing the appropriate resources will not be inclined towards investment unless they believe that they have control over the investment activities. Consequently, those who feel confident about their ability to engage in and control investment activities are more likely to intend to put effort into these activities. Thus, we hypothesise:

*H1: Positive attitudes towards investment (a), favourable investment subjective norms (b), and high levels of perceived behavioural control (c) relate positively to investment intention.*

## **Mediating Effects**

The strength of the relationship between norms and intentions can vary depending on the behaviour under study (Armitage and Conner, 2001). In the entrepreneurship literature, findings on the norms-intentions link are inconsistent since some studies report a strong (Souitaris *et al.*, 2007; Moriano *et al.*, 2012) and others a rather weak (Liñán *et al.*, 2011; Kautonen *et al.*, 2013) relationship. Scholars suggest that the weak relationship between norms and intentions may be explained by the mediating role of attitude and control (Liñán and Chen, 2009). In other words, norms seem to function as a more distal antecedent of intentions, and the effect of norms on intention seems to run through more proximal antecedents, such as attitudes and control. Although TPB (Ajzen, 1991; Ajzen and Fishbein, 2005) assumes close interrelations among attitudes, social norms and control, the direction of the relationships is not stated. This requires other theories that could complement TPB's main assumptions in examining mediating effects.

The theoretical rationale supporting the proposition that attitudes and control mediate the norms-intentions link is grounded in two complementary theories, namely Social Capital theory (Coleman, 1990) and Social Cognitive theory (Bandura, 1986; Bandura, 1997). Behaviour and the related intention is a construct related to individuals' social network (Bandura, 1986). Individuals are bonded with other individuals within their personal network by generating shared norms, values and beliefs (Nahapiet and Ghoshal, 1998). Social norms can inform attitudes by transmitting specific values that may cause favourable perceptions regarding a given behaviour (Prislin and Wood, 2005). Also, social influences affect individuals' beliefs regarding the positive outcomes of engaging in a given behaviour and shape their attitude when deciding to engage in that behaviour or not (Coleman, 1990). Therefore, when individuals consider that their close social circle encourages their involvement in a given



behaviour, a positive attitude towards this behaviour is likely to be formed. Social persuasion can also increase individuals' beliefs regarding their ability to engage in a given behaviour (Wood and Bandura, 1989). Considering that the concept of self-efficacy as defined by Bandura(1997) is captured in the concept of control as defined in TPB (Ajzen,1991), it can be argued that the more favourable the social norms the greater the control.

Previous research shows that norms relate positively to attitudes and control (Liñán, 2008) and that attitudes fully mediate the relationship between norms and intentions (do Paço *et al.*, 2011). In countries such as Taiwan or Spain, findings reveal that the norms-venture creation intention relationship is fully (Liñán and Chen, 2009) or partially (Liñán *et al.*, 2011) mediated by attitude and control. We argue that the same mechanism may exist regarding investment intentions -and not only venture creation- among potential entrepreneurs in Greece. Positive perceptions regarding investments coming from individuals' close circles are likely to increase their own perceptions that the behaviour will produce positive outcomes, which will eventually lead to positive investment intentions. Similarly, positive encouragement regarding individuals' engagement in investment activities from their close environment will increase their beliefs about their ability to engage successfully in investment activities, which will eventually lead to increased investment intentions. Treating attitude and control as potential mediators will shed light on why the effects of norms on intentions may occur.

*H2: Investment subjective norms relate positively to attitude towards investment (a) and to perceived behavioural control (b).*

*H3: Attitudes towards investment (a) and perceived behavioural control (b) partially mediate the relationship between investment subjective norms and investment intention.*

## **Moderating Effects**

The main and mediating effects within the TPB framework (Ajzen, 1991; Ajzen and Fishbein, 2005) are significant in explaining why certain intentions occur. However, these proposed effects do not explain the specific conditions under which specific intentions are more likely to be formed (Conner and McMillan, 1999). As noted, the results of previous research regarding the relationship between norms and intentions to engage in entrepreneurial activities are contradictory. In some studies, norms relate positively to intentions (Liñán *et al.*, 2011; Kautonen *et al.*, 2013; Siu and Lo, 2013), while in other studies this relationship is insignificant (Krueger, 2000; Wu and Wu, 2008; Moriano *et al.*, 2012). These inconsistent findings suggest that third variables may moderate the norms-intentions relationship. To address this issue, we propose that the TPB can be extended by incorporating possible interaction effects between attitudes, norms, and control in explaining intentions.

The contingent-consistency approach postulates that the interactive effect of attitude and norms may better predict behaviour over and above their main effects (Acock and DeFleur, 1972; Grube *et al.*, 1986). Individuals may not engage in a given behaviour either when holding positive attitudes or experiencing favourable norms, but will do so when attitudes and norms are mutually reinforcing (Andrews and Kandel, 1979). A positive attitude is more likely to be expressed through intentions or behaviors, when it is supported by individuals' close social ties (Grube and Morgan, 1990). By incorporating the main assumption of the contingent-consistency approach into the TPB and considering that attitudes and norms influence behaviour only through their impact on intentions (Ajzen and Fishbein, 1980; Bagozzi *et al.*, 1989), it may be argued that the interactive effect of attitude and norms on intentions may also hold (Bagozzi and Schnedlitz, 1985). Outside the entrepreneurial domain, Bansal and Taylor (2002) have confirmed the interaction between attitude and norms in predicting customer service provider switching intentions. They show that positive attitudes relate positively to

intentions, when individuals perceive positive norms. We explore whether the moderating role of norms on the attitude-intention relationship may occur when the behaviour under consideration refers to investments. We propose that individuals who have a positive attitude towards investment may form a favourable intention particularly when the investment meets the approval of their close social ties. When the social circle of the potential entrepreneur has a favourable opinion about his or her plans to invest resources, then the entrepreneur's positive attitude towards the investment is more likely to be transformed into intention.

*Hypothesis 4: Investment subjective norms moderate the positive relationship between favourable attitude towards investment and intention, in such a way that this relationship is stronger when there is a positive norm.*

Individuals form intentions to perform a given behaviour when they are capable of performing the behaviour and simultaneously inclined to do so for other reasons (Ajzen and Madden, 1986). In this regard, there is a possibility that control may interact with norms in predicting intentions (Ajzen, 2002; Fishbein and Ajzen, 2010). Yzer (2007) postulates that the relationship between norms and intention is moderated by the level of control one has over the behaviour. Empirical findings regarding health-related intentions indicate that norms interact with control in such a way that favourable norms lead to positive intentions, particularly under conditions of high control (Kidwell and Jewell, 2003). Incorporating the proposed interaction between norms and control into the investment context, we suggest that potential investors whose close social circle is positive regarding the investment will be inclined towards investment activities, particularly when they also have a strong sense of control over the investment activities.

*H5: Perceived behavioural control moderates the positive relationship between positive subjective norms and investment intention, in such a way that this relationship is stronger when there is a strong sense of control.*

Eagly and Chaiken (1993) note that individuals intend to engage in a given behaviour by taking into account a conjunction of their own perceptions regarding the behaviour and their ability-controllability to engage in this behaviour. Indeed, empirical evidence shows that the interaction effect of attitude and control explains intentions related to drug use (Conner and McMillan, 1999). In customer service provider switching behaviour, individuals with positive attitudes obtain stronger intentions towards the behaviour, particularly when they consider that they have the appropriate human capital in order to engage in the specific behaviour and acquire high levels of control regarding the specific behaviour (Bansal and Taylor, 2002). In the entrepreneurial domain, Fitzsimmons and Douglas (2011) show that the desire (i.e., positive attitude) to engage in entrepreneurial activities relates positively to intentions, when individuals consider that they have control over the behaviour. On the basis of these results, we argue that the combination of positive attitudes towards investment and strong control over the ability to engage in entrepreneurial activities may result in a stronger intention.

*H6: Behavioural control moderates the positive relationship between favourable attitudes towards investment and investment intention, in such a way that this relationship is stronger when there is a strong sense of control.*

Krueger (2003) argues that the interaction among the three distinct, but interrelated, factors of control, norms and attitudes explaining entrepreneurial intention merits investigation. According to the TPB, intentions are based on attitudes in tandem with norms and control and

those intentions appear to be stronger when high levels of control, favourable norms and positive attitudes toward the behaviour co-exist (Ajzen, 1991; Ajzen and Fishbein, 2005; Prislin and Wood, 2005). Therefore, the relationship between positive attitudes and intention towards entrepreneurship may be stronger when supportive close ties and high levels of control are present. Based on this argument, de Jong's (2013) findings indicate that attitudes positively relate to small business managers' decisions to exploit opportunities particularly when respondents perceive positive norms and have high control. Reformulating de Jong's (2013) hypothesis in the investment context, we expect that positive perceptions regarding what important others think about engaging in investment activities and high levels of control are important conditions for individuals' attitude towards investment activities to relate positively with investment intentions.

*H7: Investment subjective norm, investment perceived behavioural control and attitude towards investment interact in explaining investment intention, in such a way that the positive relationship between positive attitude towards investment and investment intention is stronger when there is a positive norm and a strong sense of control.*

The conceptual model and the hypothesised effect of the study are depicted in Figure 1.

Insert Figure 1

## **Method**

### **Procedure and Participants**

The present study was undertaken in Greece during the midst of the financial crisis. Our unit of analysis is the individual potential investor of human, social and financial capital. We only targeted individuals with Greek nationality and residence in order to make sure that they had experience of the turbulent economic environment. An online survey was sent in the first part of 2012 via email to 650 employed and unemployed individuals. We used the email addresses of four emailing lists that were available to the researchers. Also, the link to the electronic questionnaire was posted to various online fora, and all interested individuals could participate in the study. Recruiting participants in this way did not make it possible to estimate the exact response rate. It was clearly stated that participation in the study was anonymous and that participants could withdraw at any time during the study.

Participants were informed about the purpose of the study by clarifying that investment activities refer to investing not exclusively financial capital, but also human capital and social capital. At the beginning of the survey, participants were asked whether they had ever invested and/or were still investing their human, social and financial capital in exchange for a stake in a project or a share of the project's revenues. We clarified that the project could be a new business venture, but it could also be other types of projects that they "truly believed in". Those who replied positively to this question were automatically discarded from the study. This made it possible to concentrate only on those who had never been engaged in investment activities. We did that for three reasons. First, in this paper we focus on those with no previous investment behaviour as for them this may be an alternative strategy for evading the effects of the crisis. This is particularly relevant for young people in Greece, who have very few employment opportunities in a country that has seen the unemployment rate reach 26% (EUROSTAT, 2014). Secondly, past investment experience could obfuscate the results of this study, which

focuses on future investment intentions. Finally, although we acknowledge that studying investment intentions in a sample of experienced investors is of great value, from a methodological perspective, investment intention would refer to participants' intentions to continue investing, which is beyond the scope of this study.

The final study sample ( $N = 203$ ) consisted of 78 males (38%) and 125 (62%) females with a mean age of 33 years ( $SD = 8.9$ ). This is rather comparable to evidence indicating that 51% of individuals with a Greek nationality and residence are females (ELSTAT, 2014a). Despite the fact that unemployment in Greece has been escalating, still the persons employed as a percentage of the total labour force in Greece was greater than those who were unemployed (84% employed while the rest were unemployed) (ELSTAT, 2014b). This is reflected in our participants, where 29% were unemployed, while the remainder were employed with a mean job tenure of 6.8 years ( $SD = 7.6$ ). The vast majority of participants were single (68%), had an annual household income lower than £20,000 (76.4%) and reported that they had been negatively affected by the financial crisis with regard to their work (78.3%) and financial (74.4%) situation. Based on the International standard classification of education, approximately 47% of the Greek population between 25-54 years have attained at least upper and post-secondary education, while 27.5% of individuals hold a first or second stage tertiary degree (EUROSTAT, 2013). This is reflected in our sample, as 79% of the participants were highly educated, holding bachelor, masters or PhD degrees.

## **Measures**

All constructs stemming from TPB (Ajzen, 1991; Ajzen and Fishbein, 2005) were assessed with the respective validated scales that have been developed by van Hooft and de Jong (2009). All scales were adapted to refer to investment intentions with items and response options remaining the same. All scales were reliable. Cronbach's alpha for PA (three items), SN (two

items), PBC (five items) and II (three items) were  $\alpha = .93$ ,  $\alpha = .87$  ( $r = .78$ ),  $\alpha = .80$  and  $\alpha = .85$ , respectively.

### **Control Variables**

*Age* was measured by asking participants to determine the year that they were born. Also, participants provided information on their *Gender* [(1) = Male, (2) = Female], *Marital Status* [(1) = Single, (2) = Never married, (3) = Engaged, (4) = Married or in Civil Partnership, (5) = Divorced, (6) = Widowed or (7) = Separated], *Educational Level* [response options ranked from (1) = primary education to (6) = PhD], *Current Employment Status* [(1) = Paid-employment (2) = Self-employment and (3) = Unemployed]. Finally, participants reported on their *Job Tenure* in their current job position.

### **Strategy of Analysis**

To examine the hypothesised mediating effects, we applied bootstrap analyses for indirect effects by using the syntax for multiple mediation for parallel mediators with the inclusion of control variables that has been developed by Preacher and Hayes (2008). The hypothesised interaction effects were tested by means of hierarchical regression analysis. In the first step of this analysis the control variables, predictor and moderators were entered, followed by the three two-way interaction terms in the second step. In the third step of the analysis, the three-way interaction effect was added. Predictor and moderator variables were standardised prior to calculating the cross-product interaction terms. Significant interactions were probed with the simple effects approach, and were plotted by using one standard deviation above and one below the mean of the predictor and moderator variables (Preacher et al., 2006).



## Results

Descriptive statistics in the form of means, standard deviations and correlations between the study variables are presented in Table 1. According to H1 (a-c), attitude towards investment, investment norms and control were expected to relate positively to investment intention. Bootstrap analyses (see Figure 2) support H1, since attitudes towards investment ( $\beta = .46, p < .001$ ), investment norm ( $\beta = .19, p < .01$ ) and control ( $\beta = .27, p < .01$ ) relate positively and significantly to investment intention. In relation to H2a, results show that investment norm relates positively to attitude towards investment ( $\beta = .58, p < .001$ ). In a similar vein, norms relate positively to control ( $\beta = .31, p < .001$ ; H2b). Hypotheses 2a and 2b are fully supported.

Insert Table 1 and Figure 2

According to the bootstrapping model for parallel mediators, mediation is supported when confidence intervals do not contain zero (Preacher and Hayes, 2008). As shown in Table 2, both mediating effects are significant for the 95% confidence intervals. Furthermore, analyses show that the two mediating effects vary significantly in terms of their strength (estimate = .18,  $p < .05$ ), suggesting that attitudes are stronger mediators than control in the relationship between norms and investment intentions. Figure 2 presents the statistically significant standardised coefficients resulting from the bootstrap analyses. All in all, these results fully support Hypothesis 3 (a and b). These analyses are performed while controlling for demographics. However, it is important to note that results are similar, even when demographics are not taken into account.

Insert Table 2 and Figure 2

Table 3 presents the results regarding Hypotheses 4 to 7. Hypotheses 4 to 6 are rejected, since none of the three two-way interaction effects is significant. However, the three-way interaction effect is significant. In other words, attitude towards investment interacts with investment norms and control in explaining investment intention ( $\beta = -.21, p < .05$ ). This interaction effect is depicted in Figure 3. Results of the simple slopes test show that the only significant slope is that of positive norms and low control (estimate = .67,  $t = 1.96, p = .05$ ), while none of the other slopes is statistically significant (for positive norms/high control: estimate = .38,  $t = 1.18, ns$ ; for negative norms/high control: estimate = .35,  $t = 1.08, ns$ ; and for negative norms/low control: estimate = .41,  $t = 1.22, ns$ ). These results suggest that attitudes relate positively to investment intention, particularly in conditions of positive norms and low control. Thus, Hypothesis 7 is rejected. As far as demographics are concerned, results show that only employment status and job tenure relate significantly and positively to investment intentions. The exclusion of demographic variables from the analyses results in similar findings.

Insert Table 3 and Figure 3

## **Discussion**

### **Main Effects**

The findings of the study confirm the main assumptions of the TPB in explaining investment intentions. Individuals' intentions to act entrepreneurially by investing certain resources that can be directly applied to the venture are positively associated with a) their own attitudes regarding investments, b) their considerations about what their social environment thinks about them engaging in investments, and c) their level of self-efficacy combined with their ability to take control over investment actions. This is in line with previous research (Souitaris *et al.*, 2007; Schlaegel and Koenig, 2014; Zapkau, Schwens, Steinmetz, and Kabst, 2015) on

intentions to act entrepreneurially by exploiting a new business idea. These studies indicate that a positive attitude towards entrepreneurship, favourable norms and high levels of control form stronger intentions towards entrepreneurship.

Attitudes may reflect positive or negative feelings derived from being an entrepreneur, but also evaluative considerations about the perceived costs and benefits of being an entrepreneur (de Jong, 2013). Individuals' feelings may encompass evaluative considerations, where perceived benefits are related to individuals' motivation. Our findings supplement previous research indicating that the attitude-intention relationship holds when attitude is solely measured as individuals' evaluative considerations in the form of a variety of intrinsic and extrinsic motives (van Gelderen *et al.*, 2008; Kautonen *et al.*, 2013; Kibler, 2013). In addition, considering that we have measured control as a construct incorporating self-efficacy and control, our findings supplement previous research that demonstrates the significant relationship between control and intention, when control is measured only by means of self-efficacy beliefs (Moriani *et al.*, 2012; Siu and Lo, 2013).

### **Mediating Effects**

In the Greek context, where the culture is considered to be a collectivistic one (Hofstede, 1980), it is not surprising to find a relationship between norms and investment intentions. Our evidence suggests that potential entrepreneurs comply with the expectations of their close social circle when it comes to investment intentions. Attitudes and control are the linking mechanisms between norms and intentions. Individuals' intentions tend to be heavily associated with others' positive opinions regarding specific behaviours and, consequently, these opinions form positive attitudes regarding the specific behaviour in individuals and relate to individuals' ability to control the given behaviour.

Our findings are in line with previous research about entrepreneurs. Particularly, in collectivistic cultures like Spain and Taiwan, studies show that norms associate indirectly with intentions via attitudes and control (Liñán and Chen, 2009; Liñán *et al.*, 2011). This mediating effect of attitude and control in the norms-intention relationship may explain why in previous research the relationship between norms and intention has been found to be insignificant in collectivistic cultures such as Iran and China (Wu and Wu, 2008; Moriano *et al.*, 2012). Our work supplements these studies by providing evidence regarding the mediating role of attitudes and control on the norms-intention relationship, when the behaviour under consideration refers to acting entrepreneurially by engaging in investment activities. More specifically, the partial mediation of attitude and control in the norms- investment intentions relationship in Greece implies that a relationship between norms and investment intentions is still present and that attitude is a stronger mediator than control.

Armitage and Conner's (2001) meta-analysis suggests that the norms-intention relationship is significantly weaker than the attitude-intention and control-intention relationships. Our findings agree with the conclusions of Armitage and Conner (2001) by showing that the reason why norms exert such an immense impact on entrepreneurial intentions in collectivistic countries is because they also determine individuals' attitudes and control to a great extent.

### **Moderating Effects**

In order to deepen our understanding regarding the effects of norms on intentions towards investment, we explored whether favourable norms, positive attitudes and high levels of control have to be present in order for a strong intention to occur. We tested all possible 2-way and 3-way interaction effects between the core antecedents, in order to explain under which particular conditions investment intentions are stronger. In contrast to previous studies that found significant interaction effects between attitude and control on students' intentions to create a

new venture (Fitzsimmons and Douglas, 2011), in our study none of the two-way interaction effects are significant, which is, however, in line with previous research on opportunity exploitation (de Jong, 2013).

A possible explanation for these non-significant findings is that the three-way interaction explains intentions over and above the two-way interaction effects. Results suggest that attitudes relate positively to investment intention, particularly in conditions where norms are positive, but control is low. This unexpected finding is in contrast with previous research in the entrepreneurial domain regarding the decision to exploit opportunities for innovation. In particular, de Jong's (2013) empirical findings regarding the significant three-way interaction indicate that small-business owners' decisions to exploit opportunities for innovation are stronger when positive attitudes interact with favourable norms and high levels of control.

From a theoretical point of view, our findings are in line with the resource substitution hypothesis, which suggests that when a given resource is absent or inadequate, a second resource may substitute for this loss and act in its place (Hobfoll and Lilly, 1993). Following Hobfoll's (2002) categorisation of resources, we may consider high levels of perceived control as a type of personal resource, while favourable norms may be seen as a type of social resource. Based on the substitution hypothesis it may be argued that even when control is low, intentions can be high because individuals' limited ability to control investment activities has been substituted by the favourable norms and their positive attitudes towards investments. Individuals may intend to act entrepreneurially by engaging in investment activities in conditions where favourable norms and positive attitudes coexist with low levels of control, as the positive influence of norms and attitudes may cover the absence of control.

Another explanation for the direction of the significant three-way interaction effect may have to do with the specific context in which the study took place. The austerity measures have had a deep and lasting impact on the psychology and morale of Greeks. Perceived behavioural

control does not measure the level of human capital that individuals possess, but the level of confidence that individuals acquire regarding their human capital and their ability to control the environment. Although Greeks may possess skills (EUROSTAT, 2013), just as was the case with our sample, which was highly educated, they may experience negative feelings related to their ability to utilise their human capital. Besides, the financial crisis may have created feelings of low controllability. With the wide-spread pessimistic atmosphere in the country regarding personal and national prospects, it is not surprising to find that low control is substituted by positive attitudes and social norms, which eventually still leads to high levels of investment intentions.

## **Conclusion**

The objective of this study is to better understand entrepreneurial investment intentions by applying the TPB (Ajzen, 1991; Ajzen and Fishbein, 2005) in a different context. The study also tests the external validity of the TPB, by applying it to understand investment intentions in the context of a turbulent environment. Our results indicate that positive attitudes, favourable norms and high levels of control relate positively to intentions to invest diverse forms of capital, in order to act entrepreneurially either by creating new or growing existing ventures. We have also tested possible mediating and moderated effects and how these may explain investment intentions over and above the main effects proposed. Our findings suggest that the direct relationship between norms and intentions is partly explained by the positive attitudes and high control. In addition, our study contributes to the better understanding of investment intentions, by providing evidence regarding the interaction effects between norms, attitudes and control on intentions. The investors' positive attitude towards entrepreneurship relates to high investment intention, particularly when they have favourable investment norms and low investment control. The analysis of the factors that lead to investment intention by applying

TPB, the reasons why certain relationships hold and when these may hold, provides a more in depth analysis of the processes and the mechanisms that explain intentions to engage in investment activities.

In a turbulent environment characterised by high levels of uncertainty, such as the Greek one, understanding what encourages investment is of great significance as it can be a catalytic growth factor. Consequently, our findings have practical implications for policy makers, who need to come up with ways of positively influencing social norms and attitudes towards entrepreneurship. When it comes to control, schemes like business accelerators or social enterprises could play a more holistic role, by not just considering individual control. Instead, they could facilitate the formation of managerial teams that address human capital shortages by bringing together entrepreneurs and investors (Papagiannidis *et al.*, 2009). Such relationship building within the context of a collectivistic society can place stakeholders within an environment that reinforces entrepreneurial attitudes, which in turn can have a positive effect on intentions. The above could potentially apply to less-collectivistic societies that face similar market conditions.

## **Limitations and Future Research**

There are certain limitations with regard to this study that need to be discussed. The cross-sectional nature of this study excludes conclusions about causality among the examined relationships. Another limitation is the relatively small sample size, which is not representative of the Greek population. However, our main purpose in this work has been to understand the processes that explain investment intentionality, for which representative samples are not necessary. Thus, we do not believe that this limitation has largely affected the study findings. Nevertheless, future studies could replicate these findings with representative and/or culturally heterogeneous samples, in order to further generalise the study findings (for an example, Yang,

Meyskens, Zheng, & Hu, 2015). Future research could also explore the same hypotheses regarding the mediating and moderating effects and apply them to different countries. This will make comparison more feasible and will highlight possible differences or similarities in diverse cultural dimensions. Intentions do not immediately lead to action. In other words, having the intention to act entrepreneurially by investing diverse forms of capital does not always mean that an individual will create a new venture or participate in an existing one (Ajzen and Fishbein, 2005). Future research, based on longitudinal designs, could verify the intention-behaviour relationship regarding investment. Finally, future research could adopt a qualitative approach that would offer in-depth insights based on rich data as to how the financial crisis or other sources of uncertainty have influenced entrepreneurial intentions.

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## TABLES

**Table 1: Means, standard deviations, and correlations**

		Mean	SD	1	2	3	4	5	6	7	8	9	10
1	Age	33.09	8.95	-									
2	Gender	1.62	.49	-.15*	-								
3	Marital status	1.67	1.03	.66**	.00	-							
4	Educational level	4.00	.99	-.04	.02	-.09	-						
5	Employment status	1.45	.50	-.36**	.04	-.31**	-.04	-					
6	Job tenure	6.78	7.60	.84**	-.15*	.66**	-.03	-.45**	-				
7	PA	3.55	.84	-.27**	.01	-.17*	.02	.05	-.29**	-			
8	SN	3.34	.95	-.13	.00	-.06	-.01	.01	-.16*	.68***	-		
9	PBC	3.37	.63	.05	.04	.08	-.11	-.01	.06	.50***	.44***	-	
10	II	2.85	.62	-.16*	-.07	-.12	-.01	.15*	-.13	.64***	.56***	.49***	-

Note: \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$ .

**Table 2: Total, Direct and Indirect effects in the relationship between subjective norms and investment intention**

	<i>Total Effect (SE)</i>	<i>Direct Effect (SE)</i>	<i>Indirect Effect (SE)</i>	<i>Confidence Interval 95%</i>
<b>SN-II</b>	.549*** (.057)	.196* (.069)		
<b>SN-II via PA (1)</b>			.267*** (.068)	.168 to .387
<b>SN-II via PBC (2)</b>			.086** (.033)	.040 to .150
<b>Contrast (1) and (2)</b>			.181* (.086)	.050 to .326

*Note: \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$*

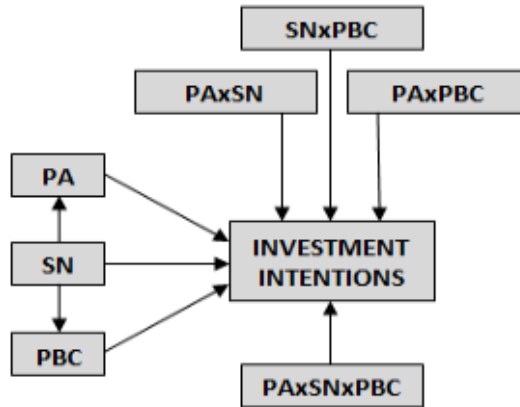
**Table 3: Results of Hierarchical Moderated Regression Analyses**

		Investment Intention				
	Variables	$\beta$	$t$	$\Delta R^2$	$\Delta F$	
<b>Step 1</b>	Age	-.07	-1.44	.50	21.82***	
	Gender	-.14	-1.41			
	Marital status	-.06	-.79			
	Educational level	.01	.11			
	Employment status	.16**	2.87			
	Job tenure	.23*	2.21			
	PA	.42***	5.37			
	SN	.19**	2.85			
	PBC	.20**	3.06			
<b>Step 2</b>	Age	-.14	-1.41	.00	.61	
	Gender	-.07	-1.28			
	Marital status	-.05	-.65			
	Educational level	.00	-.01			
	Employment status	.17**	2.88			
	Job tenure	.23*	2.15			
	PA	.45***	5.49			
	SN	.33	.70			
	PBC	.25	.79			
	PAxSN	.10	1.34			
	SNxPBC	-.19	-.29			
	PAxPBC	-.04	-.30			
	<b>Step 3</b>	Age	-.13	-1.34	.01	5.01*
		Gender	-.07	-1.34		
Marital status		-.08	-1.13			
Educational level		.01	.25			
Employment status		.15*	2.59			
Job tenure		.22*	2.10			
PA		.49***	5.79			
SN		.38	.81			
PBC		.34	1.06			
PAxSN		.10	1.33			
SNxPBC		-.21	-.33			
PAxPBC		-.13	-1.01			
PAxSNxPBC		-.21*	-2.2			

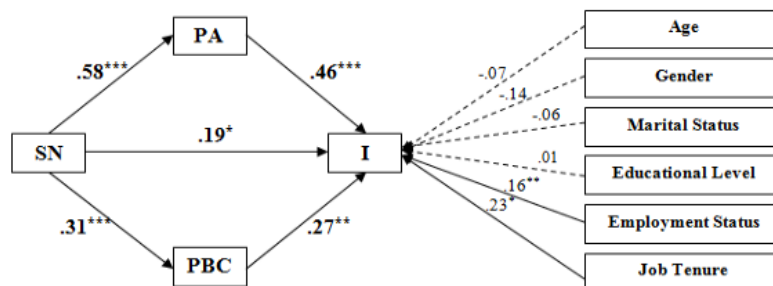
Note: \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$

**FIGURES**

**Figure 1: Conceptual model**

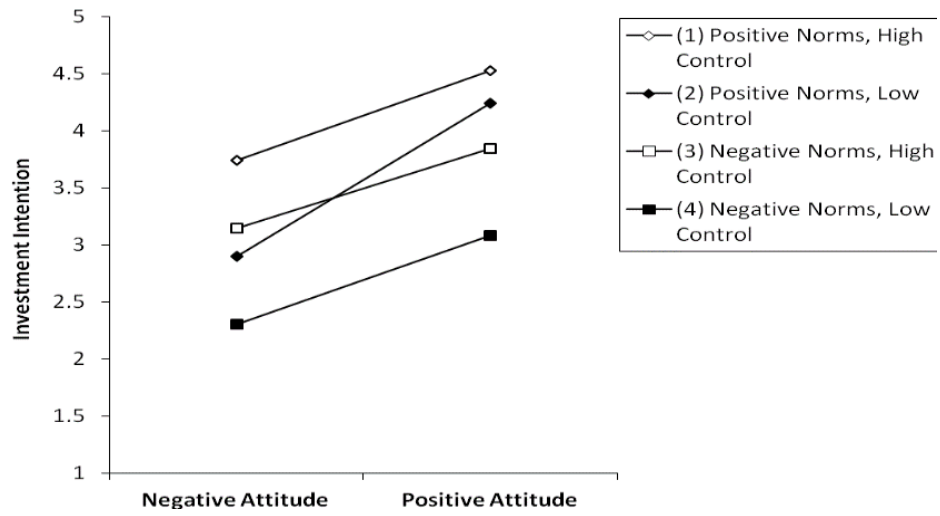


**Figure 2: Hypothesised Mediating Model and Results (Standardized Coefficient) derived from Bootstrap Analysis for Parallel Mediating Effects**



Note: \*\*\*  $p < .001$ , \*\*  $p < .01$

**Figure 3: The interaction between attitude toward investment, subjective norms and perceived behavioural control**



*Note:* Only the slope of positive norms and low control is significant.