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Over-Indebtedness Amid the Pandemic:
A Regulatory Focus Approach

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Dissertation presented as the partial requirement for obtaining a Master's degree in Statistics and Information Management

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Abstract

The past few decades have witnessed a considerable rise in over-indebted households and individuals in general. Efforts have been exerted internationally to fight the accumulation of debt in an attempt to prevent borrowers from financial and psychological distress. The current research examines the impact of regulatory focus on over-indebtedness propensity. As opposed to promotion-focus, prevention-focus has demonstrated to have a significant direct and indirect effect on over-indebtedness propensity. The goal is to test rather recurrent variables in literature (risk, impulsivity, provider trust, locus of control) in the context of COVID-19 since the data collection was carried out during the lockdown. Our final sample of 498 European consumers shows that the participants have an internal locus of control when it comes to financial hardship. The findings have important implications for professionals within the banking sector, confirming that now more than ever, borrowers need clear, concise and accessible information about loans.

Keywords: over-indebtedness, regulatory focus, risk, impulsivity, locus of control, provider trust.

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1. Introduction

Over the last decades, many tools were developed and made publicly available to predict risky financial decision-making and thus, prevent over-indebtedness. Sadly, the COVID-19 pandemic afflicted the financial and non-financial health of households and individuals everywhere in the world; with consumer debt hitting new staggering records (Brickell et al., 2020; Cox, 2020).

The U.S. household debt is dropping due to decreasing credit card balances (a $34 billion drop); consumers have been shifting their spending only to essential goods (Reuters, 2020). Those numbers only reflect the second quarter of the year; consumer trends might have shifted again after lifting the lockdown. As for the EU, a recovery plan for 2021-2027 generates a total budget of €1.85 trillion to tackle the current household financial fragility and support urgent investments (European Commission, 2020). The unemployment rates are hitting unprecedented records worldwide, leaving people with partial to no income to cover their daily expenses. The rates are moderate in the euro area (7.3%) compared to Canada (13%) and the United States (14.7%) according to the OECD (2020).

There are multiple measurements for over-indebtedness and therefore, there can be various definitions for it as no general agreement has been reached yet. It is a delicate topic; defining the liabilities that should be taken into consideration in the analysis of over-indebtedness can become a maze (Vandone, 2009). In her attempt to come up with the definition that best honours a customer-protection perspective, Schicks states that “a microfinance customer is over-indebted if he/she is continuously struggling to meet repayment deadlines and structurally has to make unduly high sacrifices related to his/her loan obligations” (2013, p. 100).

Prior definition attempts include a list of the main indicators which ranges from “total stock of debt or debt per capita” to “number of households self-reporting to be over-indebted”

(Betti, Dourmashkin, Rossi, & Ping Yin, 2007). Another study suggests that over-indebtedness takes place when current earnings coupled with any other resources cannot sustain the individual's level of debt (Anderloni & Vandone, 2011). When developing predictive models of over-indebtedness for lenders, Finlay defined it by measuring the affordability of credit products using net income from all sources, credit and noncredit expenditures (2006). In their book about consumer debt in Europe, Micklitz & Domurath (2016, p. 49) define it according to law 58/2012 as being "a combination of percentages and proportions of a household's income, effort rate, wealth, and tax value of the property with home ownership and unemployment."

Consumers might be well aware of the risks associated with over-indebtedness but would still make poor decisions when it comes to money management. Lack of financial literacy is often to blame, but it is certainly not the only determinant of such a widespread phenomenon. Self-regulation might play a big role in over-indebtedness propensity. Indeed, consumers might be subject to some kind of dissociation between their expected spending and saving behavior and the observed one (Awanis & Chi Cui, 2014; Kuhl, 1981), and this discrepancy might result in large credit consumption.

Individuals who are not capable of regulating their spending behavior might let other influences get in the way of their expected behavior matching the observed one (Babin, 1995). The importance of self-regulation in buying behavior was highlighted for several areas; online shopping for electronics (LaRose & Eastin, 2002), retail business (Babin, 1995), nutrition behavior (Anderson, Winett, & Wojcik, 2007) and many more. Limerick and Peltier confirmed that "positive and negative self-regulation habits impact debt" (2014, p. 150), although other scholars would define that as "losing control" (Baumeister, Heatherton, & Tice, 1994; Baumeister, 2002), although self-control is more bound to deliberate actions and self-regulation might refer to unconscious processes as well (Verplanken & Sato, 2011).

In their research about self-control amidst the pandemic, Restubog, Ocampo and Wang (2020) articulate that emotion regulation that individuals go through helps facilitate the recovery from emotional and mental damages that COVID-19's pandemic has caused. When conflict arises, effective self-regulation helps us monitor our thoughts, emotions and actions in order not to let the crisis gain the upper hand (Mischel, DeSmet, & Kross, 2014).

The reduction of private debt and the increase of family effort is at the heart of any government's concerns. Over-indebtedness was never an easy thing to grasp, and neither are its dangers and drives. The present study aims at elucidating the psychological and behavioral factors that impact over-indebtedness propensity. The potential explanatory constructs were narrowed to the following: regulatory focus (promotion and prevention), risk inclination, impulsivity, provider trust and internal locus of control. This study starts with giving a context about the behavioral factors chosen to explain over-indebtedness propensity followed by the hypotheses about the type of impact that each of the factors has on the dependent variable. An evaluation of the model used and its validity are outlined later in the study. It is concluded by a general discussion of the results, implications and limitations of the study.

2. Conceptual background and hypotheses

2.1. Regulatory Focus and Over-Indebtedness Propensity

Banks have long been involved in the fight against over-indebtedness through responsible distribution of loans; their decision to grant a loan is based on a careful analysis of the client's solvency. In this study, where regulatory focus is the main construct for over-indebtedness prediction, the construct was partitioned into two: promotion-focus and prevention-focus. A study investigating regulatory focus in the context of a financial crisis demonstrates that the latter lowers promotion and contributes to higher levels of prevention focus (Markovits, Boer, & van Dick, 2014).

Howlett, Kees and Kemp (2008) confirm that regulatory focus impacts long-term financial decisions. Consumers' saving goals and patterns are also impacted by regulatory focus (Cho, Loibl, & Geistfeld, 2014). It is only to be expected that promotion-focus and prevention-focus would yield different results when it comes to borrowers' behavior; and it is the reason why this study focuses on the direct impact of promotion on over-indebtedness propensity and its indirect impact through risk inclination and impulsivity. The second part of the study centers on the direct impact of prevention on over-indebtedness propensity and its indirect effect through provider trust and internal locus of control.

2.2. Promotion Focus and Over-Indebtedness Propensity

"A promotion focus is concerned with advancement, growth, and accomplishment and the strategic inclination is to make progress by approaching matches to the desired end-state" (Crowe & Higgins, 1997, p. 130). Promotion focus fosters a state where individuals are seeking to reach their ideal self (Brockner & Higgins, 2001). A study investigating regulatory focus in the context of exploratory buying behavior tendencies brings forward the fact that these tendencies are accentuated when the decision-maker has a promotion focus (Chowdhury, Ratneshwar, & Desai, 2009).

Considering the fact that promotion revolves around the achievement of positive outcomes; it would be surprising to find a significant relationship with over-indebtedness propensity, assuming that our participants are conscious and well-informed about over-indebtedness consequences. Mogilner, Aaker and Pennington (2008) discovered that promotion-framed products are more likely to sell when consumers decide to make a distant rather than immediate purchase.

However, promotion focus has been proven to alter investment decisions (Zhou & Pham, 2004) and to be associated with impulsive behavior and lack of self-control (Sengupta

& Zhou, 2007), presumably because it induces this fear of "missing out on an opportunity to accomplish something" (Cheung, Gillebaart, Kroese, & De Ridder, 2014, p. 2).

The aim here is to uncover any significant direct or indirect impact of promotion focus on over-indebtedness. Pham and Higgins prove that chasing a goal and having a clear understanding on how to do so are grounds for promotion focus (2005). As indicated above, the dependent variable here is over-indebtedness propensity, and since it deals with inclination, it is highly likely that the relationship with prevention-focus would be negative. Consequently, we need to test for indirect effects as well, by hypothesizing the mediating effects of risk inclination and impulsivity.

2.3. Risk Inclination, Impulsivity and Over-Indebtedness Propensity

Building on previous research that considers risk as a key determinant for over-indebtedness propensity (e.g. Rahman et al., 2020; Van Ooijen & Van Rooij, 2016; Flores & Vieira, 2014, Keese, 2012), we want to determine if its impact has changed considering COVID-19 pandemic's context. Flores and Vieira (2014) reached the conclusion that consumers demonstrating risky behaviors are more likely to be in debt, whereas consumers exhibiting higher levels of risk perception will refrain from being indebted.

Risk perception often goes hand in hand with impulsivity (e.g. Lee & Yi, 2008; Romer, 2010; Cheng, Ng, & Lee, 2012), but mostly to portray impulsivity as a predictor of risk behavior (e.g. Zimmermann, 2010; Bayard, Raffard, & Gely-Nargeot, 2011; Ottaviani & Vandone, 2011). The current study sets one's sights on the reverse relationship and potentially uncovers a significant impact of risk inclination on impulsive behavior when it comes to financial decision making and consumption behavior, as well as introducing risk inclination rather than risk perception. The two variables are not similar since the latter deals with perceived risk and the former with perceived profit of the outcome (Weber, Blais, &

Betz, 2002). Risk inclination might contribute in lowering one's guard and therefore weaken the need for prevention.

The second mediator; which is impulsivity, has also been extensively studied in the context of indebtedness (e.g. Frigerio et al., 2020; Ottaviani & Vandone, 2011; Meier & Sprenger, 2010; Wang & Xiao, 2009). The scale used to measure this construct has to do with impulsivity when it comes to financial decisions regarding the consumer's savings, investments and current financial situation; more than it has to do with hedonism (vs. prudence) regarding consumption. Lin, Shih, Huang, and Huang (2009) investigated the consumer's emotional state before and after impulsivity, and came to the conclusion that there is a lack of negative emotions; namely regret and guilt, after engaging in an impulsive behavior that would favor immediate pleasure over long-term rewards. Gathergood (2012) highlights the fact that impulsive behavior is positively associated with over-indebtedness.

The hypotheses generated for the first part of this study are as follows:

H1. Promotion-focus negatively impacts over-indebtedness propensity.

H1a. Promotion-focus negatively impacts risk inclination.

H1b. Risk inclination positively impacts impulsivity.

H1c. Impulsivity positively impacts over-indebtedness propensity.

2.4. Prevention Focus and Over-Indebtedness Propensity

Prevention focus; having vigilance as its core element, has been demonstrated to be linked to utilitarian buying behavior (as opposed to promotion-focus with hedonic buying behavior) (Arnold & Reynolds, 2009). Consumers then engage in a carefully considered process when buying prevention-framed products. Poels and Dewitte (2008) talk about prevention hope as one that makes individuals wary in their behavior when working towards reaching a goal and describe it as being more useful than promotion hope when triggering information-seeking behavior.

Studies show that consumers with a prevention focus are interested in “safety-oriented aspects” in products (Werth & Foerster, 2007), in reliability, security and protection (Noort, Kerkhof, & Fennis, 2008), and are inclined to secure and save important amounts of money (Florack, Keller, & Palcu, 2013). When studying its effect in groups, Pfattheicher and Keller show that prevention-focus is positively related to “the tendency to punish uncooperative group members” (2013, p. 351).

Being inclined to avoid negative outcomes, prevention-focused individuals are likely to be more sensitive and concerned with companies that promote sustainability (Bullard & Manchanda, 2012). This being said, can regulatory focus be a sufficient predictor of over-indebtedness? It has been indicated that a society needs clear and precise enforcement mechanisms for prevention to work in fighting over-indebtedness, and those should be collectively adopted by loan providers (Afonso, Morvant-Roux, Guérin, & Forcella, 2016). Wilson states that, even with the bank’s or any other financial service provider’s effort, there is a need for self-regulation in order to protect low income consumers from over-indebtedness (2008).

As Higgins propounds it, “the natural strategy for prevention self-regulation is vigilance avoidance means” (2002, p. 179). Since the focus here is the consumers’ propensity and inclination towards over-indebtedness, it would not be coherent and intelligible that prevention-focus would have a direct impact on over-indebtedness propensity. The theory for the former having an indirect effect on the latter is not excluded; but we posit that prevention also influences over-indebtedness propensity through two mediators: trust in the provider and internal locus of control.

2.5. Provider Trust, Locus of Control and Over-Indebtedness Propensity

Johnson and Grayson (2005) have previously proved that trusting one's financial service provider plays a paramount role in the cognitive and affective dimensions of the exchange between the customer and the provider. They also state that competence and expertise are not enough to gain customers' full trust. The current study includes questions about whether the information received is not misleading, brief, and easy to find and access. As a matter of fact, myths and lay theories provided by lenders results in debt consolidation (Bolton, Bloom, & Cohen, 2011) and this behavior is not accentuated by a lack of financial literacy only, but by the quality of information given by the financial service provider. A study investigating trust and loyalty within the banking industry avouches that ethical sales behavior is the mainstay of the provider's trust (Román, 2003). In this model, we consider provider's trust as a first mediator to prevention - over-indebtedness propensity relationship; the second mediator is referred to as internal locus of control (LOC).

It is believed that the regnant factor in preventing over-indebtedness is loan officers and the quality of information they provide their customers. Their decision is crucial for the loan granting process. A study done in the context of the retail banking industry shows that the "factors obtained for trustworthiness of retail bankers are customer orientation, integrity and honesty, communication and similarity, shared values, expertise, and ability and consistency" (Roy & Shekhar, 2010; Sekhon, Ennew, Kharouf, & Devlin, 2014).

Financial services providers should be solicitous about the welfare of their customers; meaning that they should be trustworthy and demonstrate concern for them by preventing situations such as default, and eventually over-indebtedness. Karlan (2005), along with Howorth and Moro (2006), demonstrate that trustworthiness is a key element in predicting if someone will repay their debt or not; but our study aims to investigate the trustworthiness of loan officers and its impact on over-indebtedness propensity. Perry and Morris (2005) clearly state that more appropriate levels of debt can be reached if borrowers were educated about the matter and were provided with formal sources of financial information.

Hwang and Lin (1999) found out that, by providing the right amount of information, the decision's quality can be improved. Adding to that, Karlan and Zinman (2009) found out that "asymmetric information may help explain the prevalence of credit constraints even in a market that specializes in financing high-risk borrowers". Over-indebtedness prevention might be effective if lenders did not grant loans based on subjective preferences (Agier & Szafarz, 2012) or other inappropriate approaches (Dixon, Ritchie, & Siwale, 2007).

Previous research reported that locus of control has an impact on attitude towards debt (e.g. Livingstone & Lunt, 1992; Davies & Lea, 1995) and on saving behavior and wealth allocation as well (Cobb-Clark, Kassenboehmer, & Sinning, 2016). Literature has demonstrated that personal agency is a prominent factor often considered when assessing over-indebtedness (e.g., Dominey & Kempson, 2003; Kempson & Atkinson, 2006; European Commission, 2008). Internal locus of control is introduced as our second mediator for the relationship between prevention-focus and over-indebtedness propensity. After evaluating both internal and external locus of control in our model, we decided to go on with the internal component as results were satisfactory. Internal locus of control here refers to the extent to which individuals firmly believe that they have absolute control over the course of events and their outcome when it comes to over-indebtedness. A study revealed that internal locus of control can shape a household's saving patterns and spending behavior; as higher levels of internal locus of control indicate more savings (Cobb-Clark, Kassenboehmer, & Sinning, 2016). Other studies also show that it impacts investment behavior (Salamanca, de Grip, Fouarge, & Montizaan, 2016) and financial management behavior (Perry & Morris, 2005). As opposed to internal locus of control, individuals with external locus of control "will be slightly less likely to take steps to manage their finances" (Perry & Morris, 2005, p. 310; Tokunaga, 1993; Davies & Lea, 1995).

On that premise, we hypothesize the following:

H2. Prevention focus negatively impacts over-indebtedness propensity.

H2a. Prevention focus positively impacts provider trust.

H2b. Provider trust positively impacts internal locus of control.

H2c. Internal locus of control negatively impacts over-indebtedness propensity.

The figure below represents the theoretical model of this study:

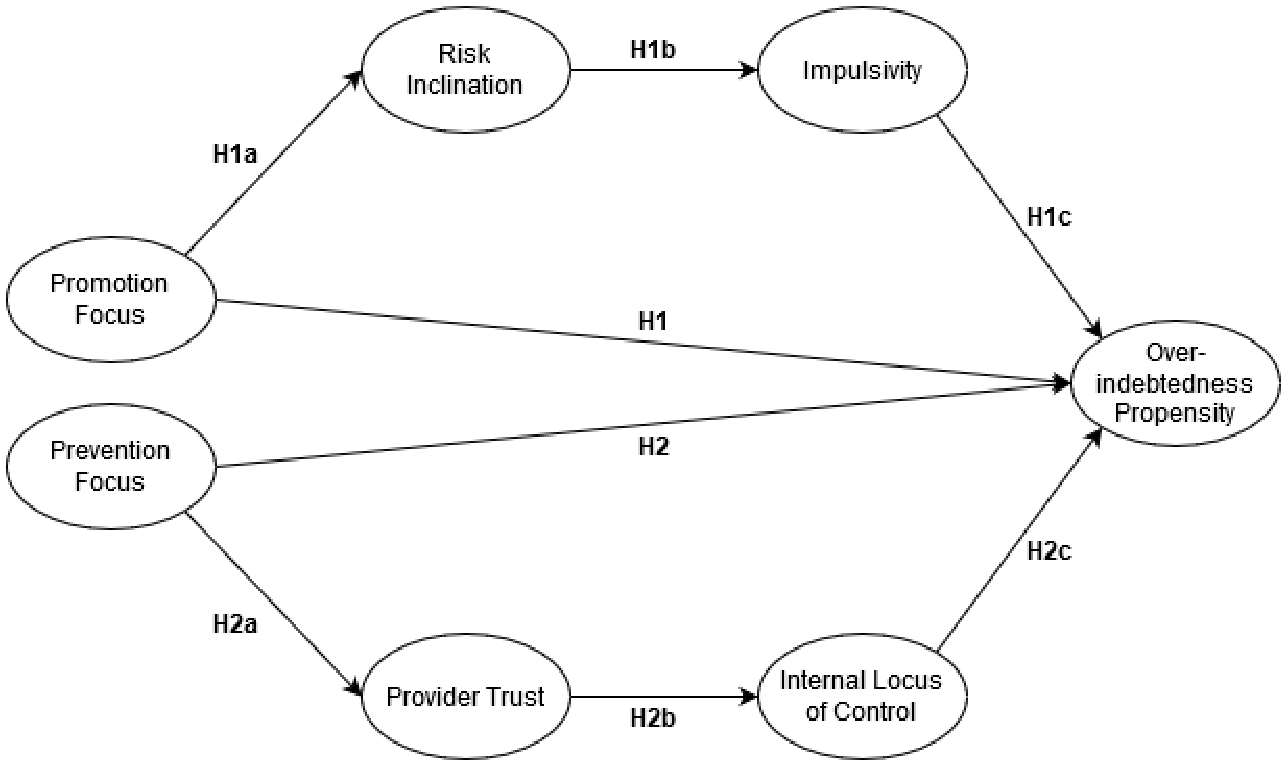

Figure 1. Theoretical model.

3. Methodology

3.1. Context

The Portuguese economy has been given a new lease of life starting 2017, marking exports and domestic demand as the principal drivers of growth (Belo & Pinheiro, 2019). In addition, more and more foreign investors benefit from Portugal's enticing tax regime; and it is also making the country's economy get back on solid ground (Farmbrough, 2018). In their article about a positive economic outlook for Portugal, Belo and Pinheiro also stress the importance of "the reduction in private debt" in making the country's economy more tenacious. But despite the recovery, "high private debt and low growth are leading to an increasing proportion of non-performing loans" (Blanchard & Portugal, 2017, p. 150). And although private debt encourages private consumption, which is a factor in the noticeable growth; credit availability is supposed to help the flourishing economy and not increase the risk of entering into default.

By the end of 2019, Banco de Portugal declares that portuguese households' indebtedness level remains high "both by historical standards and compared with the euro area" (2019). A decreasing unemployment rate and an improving competitiveness should form a climate conducive to recovery for the portuguese economy, but non-performing loans remain a great concern for the government (Blanchard & Portugal, 2017). It seems that this semblance of recovery encouraged portuguese households to engage in credit and consumption. On the basis thereof, the study is based on portuguese consumers to further investigate the phenomenon described above.

3.2. Data collection

The data was collected from 500 portuguese consumers during the months of May and June 2020 through Prolific platform. The questionnaire has been designed to offer a comprehensive and up-to-date picture of the Portuguese households' credit consumption and financial behavior. The participants were informed about the topic of the study as well as the time it would take to complete it prior to starting the questionnaire.

The latter was partitioned into five blocks; the first block being an assessment of the respondent's demographic profile, the second block aims at collecting information about different types of loans that consumers may have, the third block investigates how respondents grasp financial information, their feelings about over-indebtedness and their overall spending behavior, the fourth block evaluates how participants plan for their budget and savings on a household level but also on an individual level, and assess the financial service that they get from their bank, and finally, the fifth and final block help us understand participants' sleeping habits, assess their health overall and their potential travel plans.

After obtaining the results, 19 participants' answers were excluded from the dataset either because their answers followed an odd pattern, because they only took a few minutes to complete a questionnaire that requires at least 20 minutes, or because they failed the attention check while having answers that are not particularly congruent. The excluded answers were replaced by a second batch generating a final dataset of 498 valid observations. A nine-point Likert scale from 1 (strongly disagree) to 9 (strongly agree) was used to evaluate our factors: promotion-focus, risk inclination, impulsivity, prevention-focus, provider trust, internal locus of control, and over-indebtedness propensity.

This study includes many constructs and indicators, and explores theoretical extensions of established theories, which makes partial least squares (PLS) regression a suitable method for analysis (Hair, Risher, Sarstedt, & Ringle, 2019). It is also a method that finds a few factors that most efficiently explain the variation in both predictors and response, and we run our model using smartPLS 3.2.7 which was adapted for more robust structural equation analyses even from less data distributions and a smaller sample size (J.F. Hair, Hult, Ringle, & Sarstedt, 2016). While the covariance-based SEM is more suitable for explanatory research, PLS-SEM is more adapted to yield predictions (Shmueli et al., 2019).

3.3. Descriptive analysis

The descriptive analysis shows that a fair share of respondents are males (64.5%) in comparison with females (35.1%). Our results also show that most of our respondents are single or have never been married (83.5%), while only 7.8% are married, 7.2% have a consensual union on a legal basis and only 1.4% are divorced. As for the region of residence, a great part of the respondents live in the north of Portugal (39.6%), while 36.5% live in Lisbon and Tejo Valley, 16.1% live in the center of the country, 3% live in Algarve, 2.8% live in Alentejo, and the remaining 2% reside either in the autonomous region of Madeira or Azores. Regarding the current job or occupation, our findings indicate that many of our respondents are either full-time students (37.3%) or employees (36.9%), the remaining participants are either students and part-time employed (11%), unemployed (7%), self-employed (2.2%) or other types of occupation (5.6%).

We have also looked at the household members and found out that 67.3% of our respondents live with family members, 12.9% live with their spouse or partner (without children), 10% live with their spouse/partner with children, while 6.8% live alone and only 3% live with friends. We have also collected information about our respondents' saving patterns and reasons; we found out that most of them save regularly (74.5%), 21.9% declare saving but not regularly and only 3.6% are not saving. As for the reasons behind having savings, 37.1% report that the main reason is upcoming non-regular expenses, 25.5% say it is to cope with unforeseen expenses, 23.7% say it is for the purchase or replacement of durable goods, while 4.6% declare it is for education or initial help to their children and 5.4% did not give any specific reason.

4. Results and discussion

4.1. Model assessment

To measure the indicator reliability, we look at the outer loadings which show us the relationship between each one of the 7 constructs and the items used to measure them. The threshold in the software is determined at 0.7. However, many of the indicators do not meet this rule of thumb, with most of them being higher than 0.5, it is considered acceptable (Hair et al., 2016). Only one item (SP2) is lower than 0.5, but it should be reviewed before being considered for deletion (Henseler et al., 2009). When removed, the variance explained in "Provider trust" dropped, so the item was considered back in the model.

As for the coefficient of determination (figure 2), there is no specific guideline on what level of R^2 is acceptable since it can vary greatly from one field to another (Halcoussis, 2004). Considering the fact that this study is assessing consumers' perceptions and behavior towards over-indebtedness, the value obtained (43.7%) can be considered as weak to moderate (Henseler et al., 2009), or substantial in social sciences (Moksony, 1990). The interpretation of R-squared depends on the purpose and outcome of the study as well. In this case, the outcome can hardly be predicted or determined by the researcher since the data was collected during a period when consumers were shifting in terms of spending and saving patterns and financial decision-making in general.

For the construct reliability and validity, we look at the average variance extracted (AVE), the composite reliability (CR) and cronbach's alpha (table 1). All the values meet the threshold determined in smartPLS for the composite reliability; all the constructs present values above 0.7. For the AVE, "Impulsivity" and "Over-indebtedness propensity" are the only two values below 0.5, even after deleting the items showing very low outer loadings. However, the two values are accepted since the composite reliability is highly satisfactory for both constructs.

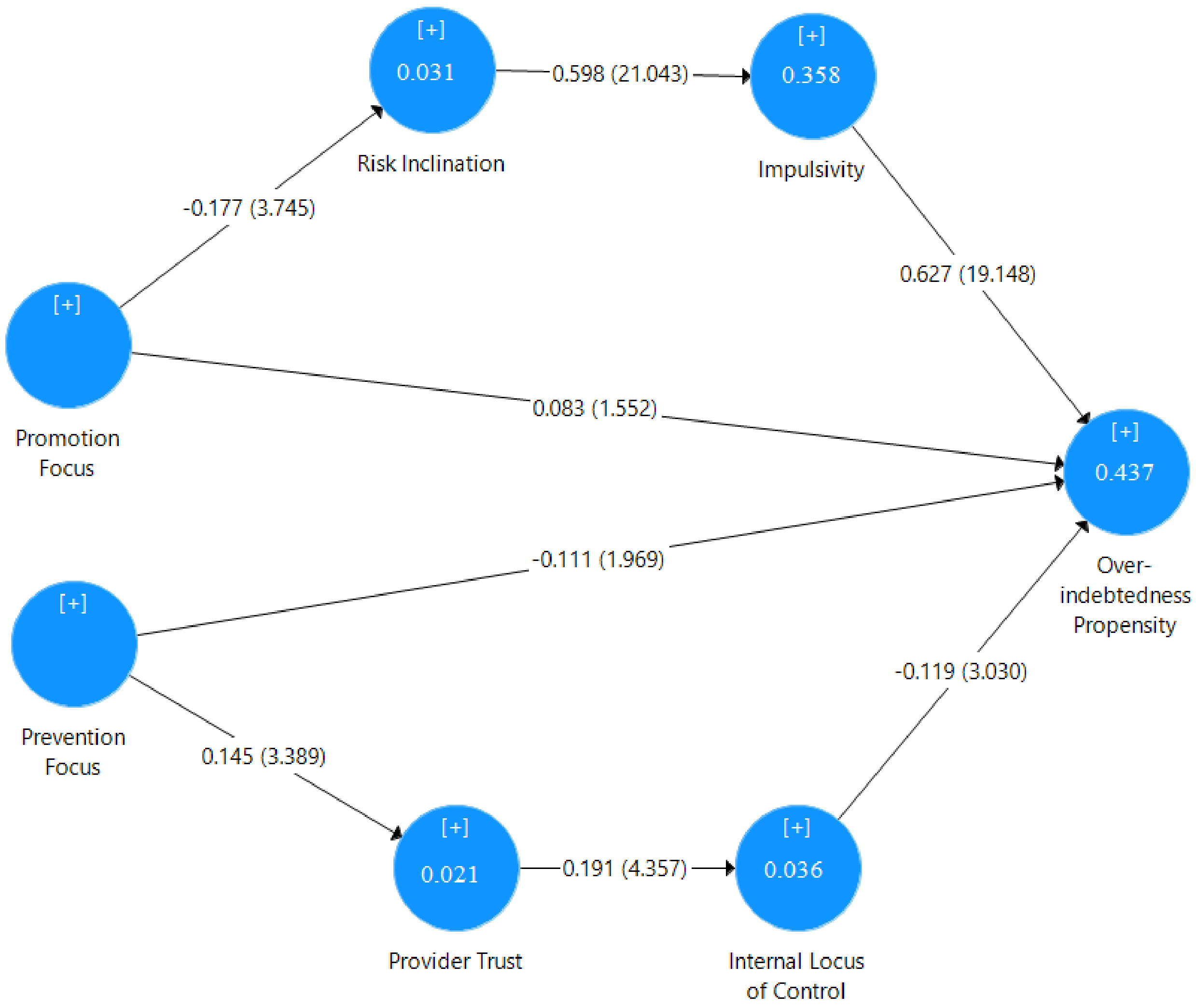

Figure 2. Structural model.

The discriminant validity here is determined using the Heterotrait-Monotrait Ratio (HTMT) as it is considered being more reliable than the Fornell-Larcker Criterion (Henseler et al., 2014). The values in table 2 show that discriminant validity has been established between all reflective constructs (Hair et al., 2016). For the collinearity statistics, we look at the inner VIF values provided by the software as well. All the values are acceptable according to Hair et al. (2013); varying from 1.000 to 2.466 as the highest value. Indeed, a Variance Inflation Factor (VIF) of 5 or below demonstrates that there are no collinearity problems. The cross-validated redundancy was obtained through the blindfolding technique with an omission distance of 7, to calculate the Stone-Geisser's Q^2 value. The values for impulsivity (0.124), over-indebtedness propensity (0.177), internal locus of control (0.016), provider trust (0.007) and risk inclination (0.009) are all above zero and therefore, present acceptable values for the study.

4.2. Model validation

To evaluate this model, the path weighting scheme was used, which is highly recommended (e.g. Vinzi et al., 2009; Hair et al., 2011; Garson, 2014). In order to generate the t statistics and p-values, a basic bootstrapping of 10,000 subsamples was run, according to the recommendations of Streukens and Leroi-Werelds (2016). The generalizability of the results is more relevant since the sample size was augmented. The confidence interval method was set to "bias-corrected and accelerated bootstrap" and the significance level set at 0.05. One out of 8 hypotheses was rejected (H1); the direct relationship between promotion and over-indebtedness propensity was proven not to be significant (table 3). The highest path coefficient (β=0.627) being the positive relationship between impulsivity and over-indebtedness propensity, and the lowest path coefficient (β=-0.111) being the negative direct effect of prevention-focus on over-indebtedness propensity, the results are represented in table 3.

4.3. Results

The findings illustrated in the above table demonstrate that there is no apparent direct effect of promotion-focus on over-indebtedness propensity (H1), but the direct effect of prevention on over-indebtedness propensity was proven to be significant even if very small (H2). The results go along with previous studies proving that consumers with a promotion focus have stronger self-control when it comes to desire for temptations, in comparison with consumers exhibiting a prevention-focus (Dholakia, Gopinath, Bagozzi, & Nataraajan, 2006). It comes as no surprise that both promotion and prevention have different results since the individuals driven by one focus differ greatly in judgment and decision making from the others (Crowe & Higgins, 1997; Higgins, 2002). In addition, individuals who manifest a strong willingness to achieve positive outcomes will have more self-control than others not to give in to the temptation of generating expenses larger than their income and fall into the trap that is excessive credit consumption and over-indebtedness.

Based on previous studies, we predicted the impact of risk inclination and impulsivity on over-indebtedness propensity (e.g., Flores & Vieira, 2014). Our results also indicate that these two variables have a positive impact on over-indebtedness propensity (H1b, H1c). The fact that promotion has a negative impact on risk inclination (H1a) demonstrates that the former has a negative indirect effect on over-indebtedness propensity. Individuals that are less risk inclined are proven to be prone to take a protection approach (Brewer et al., 2004); that would explain why individuals who are more risk inclined are likely to have a more important tendency for over-indebtedness. Being well aware of the risks and dangerous outcomes of over-indebtedness is not enough to prevent it; one should fight impulsive behavior that would lead to that even when consciously acknowledging the risks (Abrantes-Braga & Veludo-de-Oliveira, 2020).

Prevention focus having a positive impact on provider trust was confirmed (H2a), and a possible explanation would be that prevention-focused individuals place their trust in loan officers and expect them to protect the borrowers and prevent them from being indebted. This trust interacts positively with the borrowers' internal locus of control (H2b); the better informed they are, the more they believe that people should have control over their actions and especially over their money management (H2b) and that they should be held accountable for being over-indebted (H2c). In other words, over-indebtedness propensity is reduced when individuals are believed to have a prevention focus and an internal locus of control.

4.4. Robustness check

The assumption about the relationship type often states that latent variables impact each other in a linear fashion, but it is not always the case. When a relationship is nonlinear, the magnitude and value of the exogenous construct will impact the effect's size between two constructs (Hair, Sarstedt, Ringle, & Gudergan, 2017). Using SmartPLS, quadratic effect (two-stage approach) will be used to test for nonlinearity. Table 4 shows the results of bootstrapping with 10000 samples and indicates that there is only one nonlinear effect that is not significant (LOC*LOC → PO), in addition to a weak effect size for all the constructs. We can conclude that quadratic effect has a weak effect on this model.

5. General discussion

Our findings show that promotion reduces risk inclination and impulsivity in spending money. Risk mediates promotion effects on impulsivity. However, conversely to our prediction, promotion does not directly impact over-indebtedness propensity. As expected, the results show that risk inclination increases impulsivity, which in turn mitigates over-indebtedness propensity (Frigerio, Ottaviani, & Vandone, 2020). These findings indicate that the more individuals are focused on achieving positive outcomes, the less impulsive and risk inclined they prove to be and the less likely they are to have a behavior that would lead to over-indebtedness.

As Grant and Higgins (2013) put it, a reward system works better for promotion-oriented individuals who are motivated by knowing that they will eventually reach a payoff. Since the dependent variable under study deals with propensity or inclination towards a permanent situation of imbalance, it is plausible that the relationship between promotion and over-indebtedness is non-significant. As for risk inclination, the findings are easy to grasp since individuals who are more focused on achieving success will less likely be prone to take risks. Risk inclination has also been demonstrated to have a positive relationship with impulsivity (Herman, Critchley, & Duka, 2018).

Inversely to promotion focus, the prevention focus was proven to have a direct impact on over-indebtedness propensity; as well as an indirect effect through our two mediators. Indeed, prevention increases provider trust and internal locus of control; which in turn negatively impacts over-indebtedness propensity. Individuals who demonstrate a strong prevention focus tend to avoid negative outcomes and therefore have a vision that is more penalty-oriented (Grant & Higgins, 2013). This would explain the negative impact that prevention has on over-indebtedness propensity since “prevention-focused individuals perceive that choosing the risky option has a price” (Higgins & Liberman, 2018, p. 529).

The indirect effect manifests itself through both mediators; provider trust and internal locus of control, which were found to have a negative impact on over-indebtedness propensity. The more individuals trust their financial service provider and the quality of information administered by the latter, the more they believe that one should be held accountable for being indebted and not society or borrowers or any other external entity, the more they are averse to indebtedness and engage in avoidance behaviors when it comes to financial decisions that would eventually lead to financial helplessness.

As the study shows, tendency for over-indebtedness can have various grounds and causes. Over-indebtedness is rather a road filled with traps in which everyone is likely to fall, and pushes one slowly but surely on a slope not so inclined but nevertheless very slippery, and which carries one inexorably until it becomes dangerous for them and their loved ones. Either the individual's own money management and goals are to blame or not (Gutiérrez-Nieto, Serrano-Cinca, & de la Cuesta González, 2016), or the lender (Schicks, 2013), or one's psychological distress (Brown, Taylor, & Wheatley Price, 2005); it is important to raise awareness about the earnestness of the topic, which can manifest itself in increasing poverty growth and an alarming drop in welfare (Gutiérrez-Nieto, Serrano-Cinca, & de la Cuesta González, 2016).

Experiencing a risky life event, aiming to attain reasonable standard of living or lacking financial management skills are all triggers of over-indebtedness (Eurofound, 2020), but what prevents some people from indulging in over-indebtedness runs much deeper. Individuals who focus on prevention are more likely to have a direct impact on how they manage and look at their wealth. Promotions-focused individuals are likely to reckon that impulsivity and risk seeking should be toned down when making important financial and investment decisions. A recent study showing that antidepressants use is more frequent among over-indebted people raises the alarm about the significant impact of over-indebtedness propensity on mental health (Warth et al., 2020), and on society as a whole as the impact on public institutions is also considerable (Eurofound, 2020).

6. Implications

Apart from raising awareness among society, the contribution of this study also speaks to financial service providers. The lack of financial literacy should not be taken advantage of, but rather amended by providers. The information given to the borrower should be clear, concise, and easy to access. Borrowers expect loan officers to think about the customers' welfare before thinking about the entity's profit. Being averse to risks does not come naturally to everyone; some people do need guidance in order not to get bogged down in indebtedness.

A Eurofound report (2020) shows that the provider of debt advice differs from one country to another; it can be consumer organizations, local authorities, charities, unemployment insurance organizations, employers, and private consultants and lawyers. People are usually unaware of the source of funding and the targeted audience of these institutions since it is not always the advice provider (Eurofound, 2020). Transparency should be a key factor in preventing and fighting over-indebtedness.

Another implication would be for high school faculty, as research shows that financial education is significantly beneficial to the future young adults (CNBC, 2020). If it becomes mandatory to take classes on financial education and learn more about how to manage income and expenses, it is certainly making it easier on debt advice providers as well since they would be dealing with people asking the right questions and actively aware of the dangers of debt; notwithstanding their responsibility to make the information easy to grasp for everyone.

A last implication would be for people hoping to alter their living standard and lead a better life; presumably because social mobility is hard to achieve in the country at hand for example. Decisions that are as momentous as the ones regarding money management should never be guided by neither risk inclination nor impulsivity; as uninformed decisions may results in unemployment, physical and mental health issues, fines, and the list goes on.

7. Limitations

This study comes with a rather considerable limitation; the data was collected during the pandemic's lockdown and this might influence the results in a significant way. In addition, and for the same reasons, no in-depth interview could be administered as it is always useful to have insights from an interview to include in the questionnaire. Another limitation would be the reduced external validity of the study because of the average age of respondents and its limited range. A substantial limitation has to do with the fact that non-sampling errors might have resulted from the questionnaire since the answers are self-reported. No statistical test was used to evaluate the magnitude of this error and its impact on our study.

A final limitation would be the source of data; as it was collected from respondents who belong to the same country. Indeed, cultural differences for instance would have been an interesting path to explore when it comes to money management and financial decisions. Differences between countries can also account for variance in other constructs; such as impulsivity, risk inclination, locus of control and regulatory focus. Each society is different in terms of how well it survived the previous crushing financial crisis or what the government provides in terms of financial education; and this is determining for over-indebtedness propensity. Future research investigating over-indebtedness should also look into the role of gender in provider's trust or locus of control.

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APPENDIX A - Variables

Code	Variables	Source
	Over-indebtedness Propensity	Flores and Vieira (2014)
PO1	It is better to gather money first and then spend it.	
PO2	I know exactly how much I owe in stores, in credit cards, or to the bank.	
PO3	I would rather buy in installments than to wait to gather money to buy in cash.	
PO4	It is important to know how to control the expenses in my house.	
PO5	I would rather pay in installments even if the total is more expensive.	
	Prevention-focus	White, MacDonnell and Dahl (2011)
Prv1	I am focused on preventing negative outcomes.	
Prv2	I am motivated to prevent being a failure.	
Prv3	I am motivated to avoid negative outcomes.	
	Risk Inclination	Flores and Vieira (2014)
RI1	I accept being a guarantor for someone.	
RI2	I spend money carelessly, without thinking of the consequences.	
RI3	I invest in businesses that have great chances of not working well.	
RI4	I lend a great proportion of personal income to a friend or relative.	
	Impulsivity	Banco de Portugal (2015)
Im1	Before buying anything, I carefully consider whether I can afford this expense or not.	
Im2	I live for the present and I don't care about the future.	
Im3	It gives me more pleasure to spend money than to save for the future.	
Im4	I pay my bills on time.	

Im5	I personally and systematically control my personal finances.	
Im6	I set long-term savings goals and do everything I can to meet them.	
Im7	To buy anything, I prefer to save first.	
Im8	When I want to buy something, I immediately use credit.	
Im9	I tend to impulsively buy things.	
	Promotion-focus	White, MacDonnell and Dahl (2011)
Prm1	I am focused on achieving positive outcomes.	
Prm2	I am motivated to attain positive outcomes.	
Prm3	I am motivated to be a success.	
	Internal Locus of Control	
LOC1	Many over-indebted people would be able to improve their debt situation if they tried harder.	
LOC2	With greater effort, the over-indebted who are unemployed would be able to find employment.	
LOC3	Over-indebted people have a different set of values than other people.	
LOC4	The cases of over-indebtedness are due to the responsibility with which over-indebted people spend their money.	
	Provider Trust	
PT1	The information provided about loans is clear and not misleading.	
PT2	The information provided about loans is brief.	
PT3	The information provided about loans is easy to find and access.	
PT4	Loan officers teach clients on policies and regulations with full transparency.	
PT5	Loan officers explain deficiencies to applicants when rejecting loan applications.	

APPENDIX B - Tables

Table 1. Convergent validity.

Factor and Indicators	Factor Loading	AVE	CR	Alpha
Promotion Focus		0.843	0.941	0.910
Prm1	0.941			
Prm2	0.946			
Prm3	0.865			
Risk Inclination		0.502	0.798	0.688
RI1	0.570			
RI2	0.877			
RI3	0.682			
RI4	0.669			
Impulsivity		0.388	0.850	0.802
Im1	0.728			
Im2	0.633			
Im3	0.561			
Im4	0.563			
Im5	0.649			
Im6	0.535			
Im7	0.665			
Im8	0.637			
Im9	0.610			
Over-indebtedness propensity		0.437	0.793	0.675
PO1	0.681			
PO2	0.585			
PO3	0.675			
PO4	0.767			
PO5	0.579			
Prevention Focus		0.737	0.893	0.820
Prv1	0.866			
Prv2	0.811			

Prv3	0.895			
Provider Trust		0.509	0.827	0.748
PT1	0.627			
PT2	0.325			
PT3	0.786			
PT4	0.805			
PT5	0.884			
Internal Locus of Control		0.515	0.805	0.697
LOC1	0.798			
LOC2	0.584			
LOC3	0.591			
LOC4	0.857			

Table 2. Discriminant validity.

	Impulsivity	Internal Locus of Control	Prevention-focus	Promotion-focus	Over-indebtedness propensity	Risk Inclination	Provider Trust
Impulsivity							
Internal Locus of Control	0.215						
Prevention Focus	0.415	0.275					
Promotion Focus	0.443	0.211	0.876				
Over-indebtedness propensity	0.853	0.249	0.369	0.307			
Risk Inclination	0.695	0.145	0.162	0.179	0.696		
Provider Trust	0.164	0.240	0.162	0.181	0.225	0.312	

Table 3. Hypothesis testing.

Hypothesis	Hypothesized Relationship	Beta Coefficient	t-Statistics
H1	Promotion focus → Over-indebtedness propensity	0.083	1.552^{NS}
H1a	Promotion focus → Risk inclination	-0.177	3.745*
H1b	Risk inclination → Impulsivity	0.598	21.043*
H1c	Impulsivity → Over-indebtedness propensity	0.627	19.148*
H2	Prevention focus → Over-indebtedness propensity	-0.111	1.969*
H2a	Prevention focus → Provider trust	0.145	3.389*
H2b	Provider trust → Internal locus of control	0.191	4.357*
H2c	Internal locus of control → Over-indebtedness propensity	-0.119	3.030*

Note: * $p < 0.05$, ^{NS} not significant.

Table 4. Assessment of nonlinear effects.

Nonlinear relationship	**Path coefficient**	**p value**	**f^2**
PROM*PROM → PO	-0.093	0.020	0.017
PREV*PREV → PO	0.101	0.016	0.019
IMP*IMP → PO	0.082	0.008	0.017
LOC*LOC → PO	-0.018	0.493	0.001