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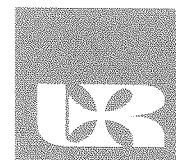
Review Report on the PhD Thesis 'The relationships between financial literacy and financial satisfaction and their impact on long-term financial planning' by Ms. Meirav Aharoni-Ben-Simhon.

I. Legal Basis for the Review

The official documentation on the PhD dissertation of Ms. Meirav Aharoni-Ben-Simhon (hereafter referred to as the Author or PhD student) was delivered by the Head of the Academic Advancement Board of the Poznań University of Economics and Business via post on August 25, 2022. The legal basis also includes the Resolution of the Academic Advancement Board of the Poznan University of Economics and Business of July 8, 2022 which appointed me as a reviewer of the doctoral dissertation.

Furthermore, the review also contains a reasoned assessment of the performance of M.Sc. Meirav Aharoni-Ben-Simhon's doctoral dissertation on the conditions specified in Act of March 14, 2003 on academic degrees and academic title, as well as degrees and title in the field of art (Journal of Laws of 2017, item 1789 as amended) and Act of July 3, 2018 - introductory provisions - Law on Higher Education and Science (Journal of Laws 2018, item 1669).

Furthermore, I declare that I am unaware of any circumstances that may affect impartiality in preparing this review.



II. Structure of the review

In the following sections, I have included:

1. An evaluation of the title of the dissertation;
2. Formal characteristics of the dissertation and evaluation of the content of the dissertation;
3. General evaluation and issues for discussion.

1. An evaluation of the title of the dissertation

After reviewing the text of the dissertation, I have found that the title, especially at the level of terminology used in it, reflects its content soundly and clearly. Thus, I have no further objection. Moreover, I need to emphasize that the individual terms of the title including: financial literacy, financial satisfaction, and long-term financial planning are the subject of scientific scrutiny both in the theoretical parts of the dissertation (literature review in Chapters 1,2 and 3), as well as in the empirical parts (proposed models and empirical investigation in Chapters 4,5 and 6). However, I have doubts about the causality proposed between financial satisfaction and long-term financial planning. I will return to this aspect with more specific comments in Section II.3 of this review.

2. Formal characteristics of the dissertation and evaluation of the content of the dissertation

The dissertation consists of seven chapters. The first three are reviews of the literature on the topic, and the remaining three are methodological and empirical chapters (I have objections referring to their clear classification, but I will return to this in Section II.3). The seventh and last chapter conclude the entire thesis by providing discussion, implications, limitations, and further directions.

Chapters 1-3 are very similar in structure, so I will briefly summarise them altogether.

As indicated above, Chapters 1-3 using a method of literature review introduce the concepts of financial literacy (Ch.1), financial satisfaction (Ch.2), and long-term financial planning (Ch.3). I find the following parts particularly valuable:

- An interesting historical account of the issues;
- An overview of the definitions used in the literature;
- Operationalization of the definitions;
- Challenges and difficulties in operationalising definitions;
- Detailed overview of the determinants.

This is also a very significant introduction to the research methodology and the empirical models in Chapters 4, 5 and 6. The review of the literature shows the author's good knowledge of the topic's literature. I find, in fact, that the number of citations and the multiplicity of terminology used is a bit overwhelming. In my opinion, using a glossary of key terms and a rigorous systematic review method would have significantly structured the content of these chapters and even better facilitated the methodological and empirical chapters.

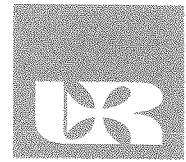


Minor comments/observations/remarks on Chapter 1 are as follows:

- The lack of discussion on the differences between subjective and objective financial literacy;
- Too little attention paid to the issue of numeracy and the relationship of this term with financial literacy (it is only mentioned on p.26, then also in other chapter on p.126);
- Para. 1.5 is confusing, I do not know what purpose it serves. The international comparison is relevant (first section), but the information in the subsection does not correspond to the title;
- p. 47 the relationship between education and financial literacy (especially its effectiveness) is an entire, separate, and vast research problem (for which systematic reviews are already available, see, e.g., Martin, (2007), Collins & O'Rourke, (2010) and meta-analysis by Fernandes et al., (2014)). This relationship is clearly marginalised, although the Author partially compensates for this by writing about the financial education implications in Chapter 7;
- Para. 1.7 ends rather unusually as the Author justifies the need for further research on the issue of financial literacy and its predictors. I am not sure if it should not be a separate chapter (non-existent introduction). Is it a summary? Maybe a restatement of what has been analysed previously. It is difficult for me to make that clear. Where are the conclusions from chapter 1?

Minor comments/observations/remarks on Chapter 2 are as follows:

- On pages 75, 76, 77, 78 the Author analyzes the relationship between financial literacy and financial satisfaction. This is an important point in the thesis, where the choice of the direction of causality should have been much better justified;
- On pages 77, 78, the Author analyzes the relationship between financial capability and financial satisfaction, but the term financial capability is omitted in Chapter 1. An analysis of the term does not appear until p.109 (and is only scrutinised narrowly in the subjective form defined as perceived financial capability). I would also indicate that an interesting relationship analysis for these terms might be found in Xiao & Huang, (2021); Birkenmaier et al., (2022) *inter alia*. Thus, a theoretical analysis of relationships between financial capability and financial literacy in Chapter 1 would be desirable;
- I believe that the Author introduces too many terms, for example, financial stress (p.84), financial security (p.87), risk tolerance (p.90), financial attitude (p.99), financial self-efficacy (p.102), financial functionings (p.105), etc. All these terms, in my opinion, warrant a separate systematic review or at least some scrutiny in non-existent glossary;
- Para. 2.5 partly duplicates chapter 3, introduces terminological confusion, sometimes even contradicting the proposed cause-and-effect relationship (see quotations on p.89 'a propensity to plan plays a significant and positive role in financial satisfaction', p.89 'Much literature stated that the saving rate has a positive and significant association with financial satisfaction', p.94 'Financial behavior refers to how individuals treat, manage and use existing financial resources. Hence, individuals who treat their money wisely will be financially satisfied', p.97 'Several studies even concluded that financial behaviors provide the strongest explanation for the total variance in financial satisfaction, and it is the most important and consistent factor which affecting satisfaction from financial affairs');
- The statement quoting 'Also, Potocki and Białowas (2022) agreed with the meaning of the term capability derived from Sen's Capability Approach (CA) or Nussbaum taxonomy' is incorrect. The authors' argument referred only to Sen's work, not to that of Nussbaum;
- Where are the conclusions in Chapter 2?



Minor comments/observations/remarks on Chapter 3 are as follows:

- I believe that 3.1 and 3.2 together with Para. 1.5 and 1.7, could be an interesting component of a non-existent introduction (further described in section II.3);
- Figure 5 could be a valuable starting point for the construction of a homogeneous model including all 3 constructs (unfortunately it is not);
- The introduction of the disciplines of cognitive psychology and behavior psychology definitely does not make sense in this chapter, as it only blurs and complicates the whole narrative in the chapter;
- On p.122, 128, 129, 132 p.135 the author again returns to the links between with Financial Literacy and financial satisfaction, but from a long-term planning perspective. Shouldn't this be part of chapter 1?;
- Where are the conclusions in Chapter 3?

Chapters 4-6 are also very similar in structure, so I will briefly summarise them altogether.

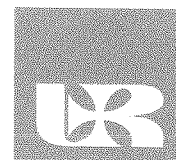
Chapters 4-6, based on the earlier literature review, introduce the research models and their empirical investigation (for financial literacy (Ch.4), financial satisfaction (Ch.5), and long-term financial planning (Ch.6)). Once again, I will emphasize that, I appreciate the effort put into the detailed methodological and empirical analysis of each of these concepts. The Ph.D. student achieved her objectives following a similar structure for each chapter, including: proposition of the research model, hypotheses formulation, detailed description of the methodology, empirical verification of the models, analysis of the impact of selected demographic and socioeconomic determinants. This thesis also demonstrates a mastery of relevant statistical methods and techniques for a PhD contribution. Empirical research proves the Author's good knowledge of the methodology and the choice of the most effective statistical tools to verify the research problem, hypotheses, and also to communicate evidence vividly. Furthermore, and this should be emphasised, the estimated models are mainly built based on the previous literature reviewed in chapters 1,2 and 3 (with the exception of my caveat in point II.3). I would also highlight the fact that the Author consistently moves within the proposed methodological framework. The data sets used are chosen and discussed (they are detailed in Section 4.2). Would it not make sense to merge the sections from Chapters 4,5,6 (proposing research model and hypotheses, as well as methodology) and present them in a separate chapter?

The minor comments/observations/remarks on Chapter 4 are as follows.

- The indicated numeracy variable on p.142 is an important component of the financial literacy construct but, as I indicated earlier in the review section, it is discussed only marginally;
- I do not quite understand the reason for returning to literature review justifying the choice of research topic on p.142 (after all, the whole chapter 1 was devoted to this).

Minor comments/observations/remarks on Chapter 5 are as follows:

- The choice of predictors on p.160 is not clear, especially financial behaviour ones (I particularly mean short-term planning, as well as desirable and risky behaviour). Isn't long-term planning one of financial behaviour, however, ordered in a hierarchical structure, known as the hierarchical model of financial behaviour (see Rószkiewicz, (2014); compare with Dew & Xiao, (2011))? Can it be desirable or risky? I am aware that I am going back to the causality problem, but that is because I still cannot find strong arguments in the thesis;



- Why did the Author on p.160 propose perceived financial capability and not financial capability among the predictors? (see i.e. Potocki & Cierpiął-Wolan, (2019); Xiao et al., (2015); Birkenmaier et al., (2022); Potocki & Białowas, (2022);
- Couldn't financial stress be a result of risky financial behaviour?.

Minor comments/observations/remarks on Chapter 6 are as follows:

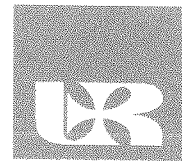
- The proposed argument for the choice of model on p.182 is far too trivial and one-dimensional. I think it would be particularly relevant to visualise the model based on other studies. A worthy suggestion can be found, for example, in Gudmunson & Danes, (2011) for economic socialization, Salignac et al., (2019) for financial resilience, Huang et al., (2015); Xiao & Huang, (2021) for financial capability;
- The discussion of the model and the diagram on p.185 also raise concerns (in addition to those indicated in chapter 5). For example, risk literacy could be a vital component of numeracy or, more broadly, of financial literacy (see Cokely et al. (2012); Lusardi, (2012); Huhmann, (2014); Ghazal et al., (2014); Lusardi, (2015)). Cited research show that the relationship is much more complex and multi-dimensional. Thus, in my opinion, some more assumptions would be need;
- I do appreciate the robustness tests as well as the time stability analysis in the chapter.

Chapter 7 summarizes the key aspects of the study, including: recap of findings, conclusion of the research questions, as well as implications, limitations, recommendations for future research and contribution. In case of implications, I find the proposition to include the aspect of financial satisfaction in financial education interventions interesting and worthy of detailed scrutiny. Moreover, I appreciate that the Author has taken into account the most important limitations to observational studies. I have a similarly positive opinion about recommendations for future research. In this section, the PhD author rightly emphasises the need to conduct randomised interventions (RCTs). The last section describes contributions, which I found a little disappointing (see minor comments below). However, I believe that if the author defends her reverse direction of the relationship between financial satisfaction and long-term financial planning, then this could indeed be considered a valuable contribution to the literature. Consequently, this can lead to further discussion and result in publications in peer-reviewed journals. However, the other contributions are far too trivial and scrutinised by others (i.e. Xiao & O'Neill, (2018)).

Minor comments/observations/remarks on Chapter 7 are as follows:

- Here, too, there are quotes that challenge the proposed direction of the relationship between financial satisfaction and long-term planning. For example, p.226 'Several studies even concluded that financial behaviors provide the strongest explanation for the total variance in financial satisfaction, and it is the most important and consistent factor affecting financial affairs', p.225 'Individuals who exhibited positive financial behaviours such as financial control, paying bills on time, financial planning, using funds effectively, chose financial products with lower costs and better credit conditions, put money aside for savings and insurance, used credit and debit effectively, had a high awareness of the importance of making financial plans and investments for the long term, were more financially satisfied';
- I do not quite understand the introduction of aspects related to the 'behavioural choice architecture' in the implications section on p. 229, especially when, firstly, the proposed model only includes psychological variables as predictors of financial satisfaction, and secondly, very often these tools are an alternative to financial education;





- The second contribution, that is, the relationship between financial literacy and financial planning, has already been the subject of many studies; therefore, it can hardly be considered unique (see, for example, Anderson et al., (2017); Kim et al., (2019); Rostamkalaei & Riding, (2020); Chua & Chin, (2021)).

Additional elements of the dissertation are the lists of figures and tables, the appendix, and the references. These are correctly prepared and not objectionable.

The last thing, even though the thesis was written correctly, I encountered some grammatical mistakes throughout the paper as well as APA format mistakes (p.13, 44, 55, 86, 98, 115). However, the overall formal assessment of the work is not objectionable.

3. General evaluation and issues for discussion

I found the topic of the dissertation to be very interesting and valuable and the empirical research has been reliably conducted. However, while reading, apart from minor comments in Section II.2 of the review, four issues have raised my concerns, to which I would like to hear the PhD student's opinion and justification during the PhD seminar:

1. The direction of causality proposed in the title, research review and empirical model, in my opinion, does not reflect the prevailing body of research in this area. Research conducted by Joo & Grable, (2004); Van Praag, (2006); Hansen et al., (2008); Xiao et al., (2014); Ali et al., (2015); Xiao & O'Neill, (2018); Białowolski et al., (2021) *inter alia* would rather suggest that financial satisfaction is a left-hand side variable which challenges the proposed causality of financial satisfaction and long term planning. Based on their results, it would be advisable to change the direction of the relationship and analyse the influence of financial literacy and financial behaviour (here: long-term planning) on a person's financial satisfaction and not vice versa. I also need to stress that I am not saying that research with an inverse relationship does not exist but it is rather scarce (see notable examples in Hira & Mugenda, (1998); Nicolini & Cude, (2019));
2. Maybe a better way to analyse the relationship between the proposed variables could be structural equation modelling (SEM)? It is worth emphasizing that that this is an emerging line of research in consumer studies in the recent years (see i.e. Nam et al., (2015); Rothwell et al., (2016); Jorgensen et al., (2017); Sorgente et al., (2020), Białowolski et al., (2021); Lone & Bhat, 2022)). I could even imagine a following title for the PhD thesis: Impact of financial literacy on financial satisfaction: a mediational role of long-term financial planning;
3. I have an important objection to the structure of the work. There is a lack of a solid Introduction, which would be a methodological chapter combining, in particular, para. 1 and 2 from chapters 4,5,6. Thus, in my opinion it would contain (what is scattered in chapters 1-6), i.e. research problem formulation, the positioning of the work in the research area of consumer studies (also referring to the JEL classification), indicating the aim and hypotheses, the research questions, the empirical model, the argumentation behind the choice of determinants and the description of the dataset as well as statistical methods. I need to stress that all these elements are formulated and presented (however, very scattered throughout the thesis);



4. There is a lack of a reliable systematic review. After all, the potential options are considerable, as a systematic review can take the form of a theory-based review (Gilal et al., 2019), a hybrid-narrative review (Dabić et al., 2020), meta-analysis (Cwynar 2021), a bibliometric review (Randhawa et al., 2016), conceptual review (Xiao & Huang, 2021) or even review of reviews (Duvendack & Mader, 2020). I have found such attempts in thesis (p.74, 86 or p.136) or systemic review papers (in chapter 1 p.17 or p.18) but it lacks scientific rigour.

III. A final conclusions

The following thesis represents an acceptable deal of work and contains original and valuable scientific results. The results are well presented and their interpretation is at a high scientific level. Moreover, the selected topic is analysed using appropriate data sets and by implementing well known empirical models.

Therefore, I declare hereby the doctoral dissertation entitled 'The relationships between financial literacy and financial satisfaction and their impact on long-term financial planning' written by Ms. Meirav Aharoni-Ben-Simhon meets the requirements for doctoral dissertations in economics according to the Act of March 14, 2003 on academic degrees and academic title, as well as degrees and title in the field of art, and Regulation of the Minister of Science and Higher Education of January 19, 2018.

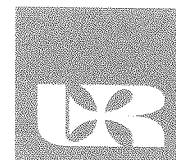
I recommend that the Academic Advancement Board of the Poznan University of Economics and Business approves Ms. Meirav Aharoni-Ben-Simhon for the public defense of the dissertation.

IV. References

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