



## Research Article

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# Financial Well-Being Scale: Evidence of Validity and Reliability in Peruvian Context

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## Abstract

The objective of the study is to analyze the reliability and validity evidence based on the internal structure of the InCharge Finance Distress / Financial Wellbeing (IFDFW). It was administered to 545 citizens from the three regions of Peru (coast, the Andes and the rainforest). There were 296 women and 243 men, with an average age of 33.45 years ( $SD= 9.65$ ). Confirmatory factor analysis provided adequate support for the 8-item one-dimensional model with the presence of correlated errors ( $CMIN= 58.635$ ,  $DF = 17.00$ ;  $CMIN/DF = 3.449$ ;  $CFI = 0.979$ ;  $RMSEA= 0.067$ ;  $SRMR= 0.032$ ; and  $PClose = 0.061$ ), also showed a good convergent internal validity based on the value of  $AVE = 0.554$ . Regarding reliability, a Cronbach's  $\alpha = 0.881$  and a  $CR= 0.91$  are observed, which indicates adequate reliability of the one-dimensional model of the InCharge. The results suggest that the Peruvian version of the InCharge presents adequate psychometric evidence to measure the financial well-being of employees in a Peruvian context. Thus, it seeks to contribute to the advancement of the scientific study of financial well-being in Latin America.

**Keywords:** Financial well-being, Scale, Peru, Reliability, validity

## 1. Introduction

Financial well-being is an indicator associated with the behavior of making decisions based on savings and debt information (Lusardi & Mitchell, 2014), this generates financial attitudes aimed at developing personal finance skills, a good philosophy regarding the implications of debt and security of money (Humaira & Sagoro, 2018); In this way, financial well-being could be measured by healthy

financial conditions (Renaldo et al., 2020) and is manifested when a person achieves the satisfaction of their demands, thus creating a feeling of current and future economic security (Muir et al., 2017). Under the aforementioned concepts, it is affirmed that financial well-being encompasses knowledge and informed decisions that, beyond improving the financial situation of an individual, they may have a flexible mind to make decisions quickly and effectively so that they can provide protection to the financial resources, also mitigating any negative impact on their personal economy (Vallejo-Trujillo & Martínez-Rangel, 2016).

Under normal conditions, an individual can project his regular budget; however, when fortuitous economic events or crisis situations occur, the real resilience of financial well-being is put to the test; This is how (Selvia et al., 2021)(Cherney et al., 2020) establish that financial well-being is a symbol of being economically healthy, being happy and without worries, managing to acquire the necessary capacity to manage their finances, deal with a financial shock, achieve the fulfillment of economic goals and have financial freedom to enjoy life (Nguyen, 2021) and precisely a scenario of uncertainty and a higher rate of economic volatility was experienced during the year 2020, since the markets experienced unpredictable economic circumstances, so it was not easy for the population to adjust to these financial changes that brought with them high instability and serious economic problems.

Although more than two years have passed since the arrival of the pandemic, the economy has been presenting a slow recovery since the last period of recession that affected the various economic sectors and it is that despite the strategies of the government, companies and individuals to achieve economic stability that allows them to fully meet their financial obligations is not enough (Brüggen et al., 2017) (Friedline et al., 2021). Therefore, there is a need to adopt greater knowledge of how to manage finances, since this could symbolize a way to achieve greater resistance to any fortuitous financial situation that has to be faced (Jappelli, 2010).

And it is that the financial situation in Peru during the year 2020 made the country one of the hardest hit by the arrival of the pandemic, the same one that caused a serious economic imbalance in the Latin American country; in addition, the country is far from assigning high relevance to the roles of financial education, this leads us to think that there is still a lot to be done in terms of strengthening the capacities so that the Peruvian population can assertively manage their financial affairs; In this context, a search was carried out for an instrument that measures financial well-being in order to know precisely how the population of Peruvian workers is in terms of financial well-being; However, little information was obtained, so this research is presented with the purpose of leaving evidence of the validity and reliability of the financial well-being scale, which aims to make an important contribution to the financial health of the population, also obtaining information that provides light so that institutions can establish policies and programs aimed at better financial education, thus cultivating practices of resilience in the population to face various economic challenges.

Knowing the importance of financial well-being, there are investigations that try to measure it through a questionnaire; in this way, certain measures have been identified in the scientific literature, such as the Perceived Financial Well-being Scale (PFWBS) proposed by Viera et al., (2023) made up of 34 items and 04 dimensions, which are: financial security, financial tranquility, financial freedom and satisfaction with financial management ; from another instance, Nguyen (2021) applied the financial well-being scale made up of 04 items in his study. In addition, (Losada-Otálora et al., 2023) established the SGWB scale that aims to measure financial well-being through 04 dimensions: control over finances, ability to absorb financial shocks, ability to follow financial goals, and freedom financial. Prawitz et al., (2006) reported on the same variable, identifying a construct made up of 08 items called InCharge Finance Distress / Financial Wellbeing (IFDFW). The list of investigations that prove the validity of this construct are diverse; however, despite the various studies, no records have been found that measure financial well-being in a Peruvian context, so this study proposes to carry out a validation of the psychometric characteristics of the Financial Well-being scale through the validity and reliability processes, thus ensuring a consistent and robust instrument that measures the variable.

## 2. Methodology

### 2.1 Population and sample

A non-probabilistic sample was carried out for convenience (Malhotra, 2019). The participants were 545 Peruvian citizens, from the coast, the Andes and the rainforest. All were economically active people who were working at the time of the survey application. The age range was from 18 to 65 years (Mean = 35.45 years; Standard deviation = 9.65). The study involved 296 women (54.7%) and 243 men (45.7%) with mean ages of 36.25 years (SD= 9.50) and 36.69 years (SD= 9.83), respectively. All the participants had professional studies at the baccalaureate level 31.4%, Bachelor's degree 36.55, Master's degree 22.2%, Specialty 8.4%. 65.5% worked as a dependent and 34.5% independently 46.1% lived on the coast, 35.4% in the Andes and 18.5% lived in the Peruvian rainforest.

### 2.2 Instrument

#### 2.2.1 InCharge Financial Wellness Scale

Prawitz et al., (2006) while doing a review of the literature, they determined that there are various scales that measure the perception of people regarding their financial situation, such as satisfaction with resources and with the standard of living, and even measures of perceived economic well-being; however, they identified few studies that focus on investigating people's feelings towards an established situation; In this case, it encompasses perceptions of financial well-being and stress, so upon finding this knowledge gap, the authors developed an instrument that ranged from feelings to reactions, which they called the financial distress/financial well-being scale, the instrument is made up of a score from 1 to 10. In addition, the development process of the referred scale was submitted to the Delphi study process where experts participated to give their opinion regarding the scale; additionally, the same instrument was subjected to validity and reliability tests, and was later published, so that scale was extracted in order to give it validity in a Peruvian context.

### 2.3 Procedure

After the ethics committee of one of the Universidad Peruana Unión approved the research, the participants were invited via WhatsApp, and the questionnaire was shared with them digitally. The data collection was carried out during the second semester of the year 2021. The participants, before answering the scale, were informed about the objective of the research, obtaining their voluntary participation and provided their informed consent, the same as that found at the beginning of the digital questionnaire. The data collection was carried out digitally, for which the questionnaire was hosted on the Google form and the participants were invited through WhatsApp. After the participants provided their informed consent by selecting the "yes, I accept" option, they could access the questionnaire, which was self-administered.

### 2.4 Data analysis

At first, the descriptive analysis of the data was carried out, such as (arithmetic mean, standard deviation, skewness and kurtosis) of the scores of the items in the Peruvian sample (Hair et al., 2014), for which we used the statistical software SPSS version 25. In a later instance, the internal structure of the InCharge was verified through Confirmatory Factor Analysis (CFA), for which the statistical software AMOS version 24 was used. The following goodness-of-fit indices were used, recommended by (Hu & Bentler, 1999): CMIN, the Chi-square coefficient between degrees of freedom [CMIN/ DFI]; the Root Mean Square Error of Approximation [RMSEA], the root mean square standardized residual [SRMR], the incremental fit index [CFI]. A good fit is considered when the model presents:  $\chi^2/ gl =$

Between 1 and 3;  $IFC > 0.95$ ;  $RMSEA < 0.06$ ;  $SRMR < 0.08$  and  $PCclose > 0.05$ . Regarding the standardized factor loadings ( $\lambda$ ), values greater than .5 were considered adequate (Johnson & Stevens, 2001).

Likewise, various reliability analyzes were performed, such as Cronbach's alpha (CA), composite reliability (CR) and the mean variance extracted (AVE). Cronbach's alpha ( $\alpha$ ) index (Cronbach, 1951) and CR values greater than 0.7 are considered adequate and for the mean variance extracted (AVE), acceptable values equal to or greater than 0.5 are considered (Hair et al., 2010).

### 3. Results

#### 3.1 Descriptive analysis of the InCharge items

Table 1 shows the descriptive elements of the items (mean, standard deviation, skewness and kurtosis) of the InCharge. It is observed that the items FWB5 and FWB7 have greater dispersion, with a standard deviation of 2.26 and 2.32 respectively. Regarding asymmetry and kurtosis, all values are less than +/- 1.5, which allows compliance with the assumption of normality (Ferrando & Anguiano-Carrasco, 2010)

**Table 1.** Preliminary analysis of the InCharge items (n=545)

	Media	Dev . Deviation	Asymmetry	kurtosis
FWB1	6.8606	1.92860	-0.388	-0.251
FWB2	6.7193	1.87380	-0.568	-0.177
FWB3	6.2917	1.82538	-0.035	-0.141
FWB4	6.1431	1.91301	-0.332	-0.035
FWB5	6.7523	2.26610	-0.562	-0.183
FWB6	6.4239	1.98852	-0.255	-0.230
FWB7	6.8972	2.32009	-0.627	-0.238
FWB8	6.9339	1.90279	-0.827	0.584

#### 3.2 Confirmatory factor analysis

To verify the internal structure, previous evidence was taken into account. Thus, the CFA was carried out with a unidimensional structure where the eight items explained a single factor (Model 1); However, the RMSEA (0.082= Terrible) and PClose (0.001= terrible) indicators were not met, so the model was respecified based on the modification index (MI) (Brown, 2015). In this sense, it was observed that items 2 and 5, 5 and 6, 7 and 8 present correlations between their errors. Therefore, an analysis was carried out with a unidimensional structure including the correlations of the mentioned items (Model 2), obtaining excellent fit indices for CFI (0.979), SRMR (0.032) and PClose (0.061). And acceptable fit indices were obtained for CMIN/DF (3.449) and RMSEA (0.067), with which an adequate model was obtained (See Table 2).

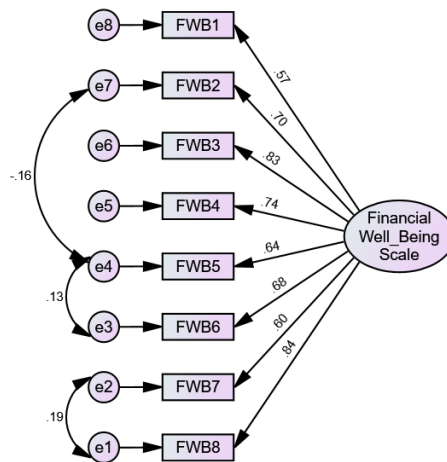
**Table 2:** InCharge statistical goodness-of-fit index (n=545).

Measure	Threshold	Model 1		Model 2	
		Estimate	Interpretation	Estimate	Interpretation
CMIN	--	92,307	--	58,635	--
DF	--	20,000	--	17,000	--
CMIN/DF	Between 1 and 3	4,615	Acceptable	3,449	Acceptable
CFI	>0.95	0.964	Excellent	0.979	Excellent
SRMR	<0.08	0.039	Excellent	0.032	Excellent
RMSEA	<0.06	0.082	Terrible	0.067	Acceptable
PClose	>0.05	0.001	Terrible	0.061	Excellent

The standardized factor loadings ( $\lambda$ ) for Model 2 were significant and in the expected direction (item 1 = .569; item 2 = .697; item 3 = .833; item 4 = .741; item 5 = .643; item 6 = .683; item 7 = .595 and item 8 = .837) with an average  $\lambda$  of .70, exactly in accordance with what is required (Hair et al., 2014). The value of AVE = 0.554 allows for empirical evidence of convergent internal validity. Regarding reliability, a Cronbach's alpha of 0.881 and a CR of 0.91 are observed, which indicates adequate reliability of the one-dimensional model of the InCharge (See Table 3 and Figure 1).

**Table 3:** InCharge statistical goodness-of-fit index (n=545).

Predictor	Outcome	Std Beta	Alpha	CR	AVE
Financial Well-Being Scale	FWB8	.837 ***	.881	0.91	0.554
	FWB7	.596 ***			
	FWB6	.683 ***			
	FWB5	.643 ***			
	FWB4	.741 ***			
	FWB3	.833 ***			
	FWB2	.697 ***			
	FWB1	.569 ***			



**Figure 1.** Factorial structure of the financial well-being scale in the population of Peruvian professional workers.

#### 4. Discussions and Conclusions

This instrumental design research aimed to leave evidence regarding the validity and reliability of a scale to measure financial well-being in a Peruvian context, applied to all types of workers. This evidence represents a questionnaire that can be applied to the general public and is that the evaluation of financial well-being has a common denominator of importance in society, so its usefulness can be extended to various economic activities within work environments. In this way, the already validated questionnaire has high potential to become an ideal tool for future research that addresses financial well-being in Peru.

From another instance, the financial well-being scale significantly supports a broader understanding of financial well-being by identifying the financial position of a person within society (Giang & Nguyen, 2022), so its application arouses the interest of the community. scientific; in this

way, it is affirmed that this study addresses one of the variables of greatest interest, since it has been shown that financial difficulties are one of the most serious problems and have an impact not only on the well-being of individuals, but also that it spreads towards the various organizations, because by generating stress it damages the psychological state of the person who adopts a negative behavior at home and at work (To et al., 2020) (Rajani et al., 2016).

The structure of the scale has a good fit and a adequate structure, the values that support his validity possess standardized factor loadings ( $\lambda$ ) for significant and in the expected direction (item 1 = 0.569; item 2 = 0.697; item 3 = 0.833; item 4 = 0.741; item 5 = 0.643; item 6 = 0.683; item 7 = 0.595 and item 8 = 0.837) with an average  $\lambda$  of 0.70, this being an adequate indicator (Hair et al., 2014). Also, the value of AVE = 0.554. These indicators allow us to have empirical evidence of convergent internal validity, regarding reliability, a Cronbach's alpha of 0.881 and a CR of 0.91 are observed, which indicates adequate reliability of the one-dimensional model of the InCharge in a Peruvian context.

Moreover, the construction and validation of the instrument is important since its application is useful for government entities to analyze the financial situation of citizens (Gutter & Copur, 2011); in this way, the government will be able to act assertively in the allocation of resources and design of public policies according to the real needs of the population, thus contributing to the reduction of economic inequality by timely identifying vulnerable groups.

Although the scale presented is a short version made up of 08 items, it is important to take into account that there is an instrument that when applied reduces research biases, this due to the number of items, as reported in the literature, a smaller number of items can facilitate the administration of the questionnaire, as well as opening the possibility of having greater participation because it is a questionnaire in which less time is invested (Campbell & Fiske, 1959) (Kerlinger, 1986).

This study was found that the items FWB5 and FWB7 have greater dispersion, with a standard deviation of 2.26 and 2.32 respectively, and with respect to asymmetry and kurtosis, all values are less than +/- 1.5. In addition, the AFC was carried out with a one-dimensional structure where the ten items explained a single factor (Model 1); however, the RMSEA and PCLose indicators were not met, so the model was re-specified based on the modification index (MI) (Brown, 2015). On this matter, it was observed that items 2 and 5, 5 and 6, 7 and 8 present correlations between their errors. Therefore, an analysis was carried out with a one-dimensional structure including the correlations of the mentioned items, obtaining in this second analysis an adequate adjustment index.

Within the practical implications, the application of the metric serves to evaluate and understand the economic conditions of citizens, more precisely. This metric is also a support for decision-making by government entities, since it is possible that based on the results, there will be an orientation that directs towards improving the financial well-being of citizens, taking into account that focusing on Improving the economic conditions of the population is a priority for governments in order to build a more prosperous and equitable society for all. On the part of companies, ensuring the financial well-being of their workers could improve their commitment, productivity and reduce absenteeism and it is proven that reducing financial stress in workers increases economic stability; therefore, any company interested in improving its organizational culture and ensuring its success over time should give its workers tools and resources to improve their financial well-being.

Although this study has covered a representative population, there is a study limitation, since an analysis has not been carried out to identify if there is a difference in the perception of financial well-being according to the citizen's age, or gender, since these characteristics could be a key element to know how people perceive and experience their financial situation; thus, it is recommended as a future line of research to carry out a quasi-experimental study where study participants can participate in talks and training regarding financial planning to then evaluate the effectiveness of the aforementioned interventions, subsequently implementing and according to the results programs that address the needs finances of the population.

Another limitation that can be mentioned is that the presence of correlated errors can affect the precision of the results and limit the generalization of the findings. Therefore, future research can be suggested that addresses this limitation, explore alternative methods to assess reliability and validity

in the presence of correlated errors, or develop new statistical techniques that take this situation into account.

## References

- Brown, T. A. (2015). *Confirmatory factor analysis for applied research*. (Teh Guilford Press (ed.); 2nd.ed.).
- Brüggen, E., Hogreve, J., Holmlund, M., Kabadayi, S., & Löfgren, M. (2017). Financial well-being: A conceptualization and research agenda. *Journal of Business Research*, 79, 228–237. <https://doi.org/10.1016/j.jbusres.2017.03.013>
- Cherney, K., Rothwell, D., Serido, J., & Shim, S. (2020). Subjective Financial Well-Being During Emerging Adulthood: The Role of Student Debt. *Emerging Adulthood*, 8(6), 485–495. <https://doi.org/10.1177/2167696819879252>
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16(3), 297–334. <https://doi.org/10.1007/BF02310555>
- Ferrando, P. J., & Anguiano-Carrasco, C. (2010). El análisis factorial como técnica de investigación en psicología. *Papeles Del Psicologo*, 31(1), 18–33.
- Friedline, T., Chen, Z., & Morrow, S. P. (2021). Families' Financial Stress & Well-Being: The Importance of the Economy and Economic Environments. *Journal of Family and Economic Issues*, 42(s1), 34–51. <https://doi.org/10.1007/s10834-020-09694-9>
- Giang, L., & Nguyen, T. (2022). An Empirical Investigation of the Subjective Financial Well-Being and Life Satisfaction of Older Adults in Vietnam. *Corvinus Journal of Sociology and Social Policy*, 13(1), 25–48. <https://doi.org/10.14267/CJSSP.2022.1.2>
- Gutter, M., & Copur, Z. (2011). Financial Behaviors and Financial Well-Being of College Students: Evidence from a National Survey. *J.Fam. Econ.*, 32, 699–714. <https://doi.org/https://doi.org/10.1007/s10834-011-9255-2>
- Hair, J., Anderson, R., Babin, B., & Black, W. (2010). *Multivariate Data Analysis*. In *Australia : Cengage: Vol. 8 edition* (7th ed.). Pearson Prentice Hall.
- Hair, J., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European Business Review*, 26(2), 106–121. <https://doi.org/10.1108/EBR-10-2013-0128>
- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6(1), 1–55. <https://doi.org/10.1080/10705519909540118>
- Humaira, I., & Sagoro, E. (2018). Pengaruh Pengetahuan Keuangan, Sikap Keuangan, Dan Kepribadian Terhadap Perilaku Manajemen Keuangan Pada Pelaku Umkm Sentra Kerajinan Batik Kabupaten Bantul. *Nominal, Barometer Riset Akuntansi Dan Manajemen*, 7(1). <https://doi.org/10.21831/nominal.v7i1.19363>
- Jappelli, T. (2010). Economic literacy: An international comparison. *The Economic Journal*, 120(548). <https://doi.org/https://doi.org/10.1111/j.1468-0297.2010.02397.x>
- Johnson, B., & Stevens, J. J. (2001). Exploratory and confirmatory factor analysis of the School Level Environment Questionnaire (SLEQ). *Learning Environments Research*, 4(3), 325–344. <https://doi.org/10.1023/A:1014486821714>
- Losada-Otálora, M., Peña-García, N., & Juliao-Rossi, J. (2023). Deterioration of the Subjective Financial Well-Being During the Coronavirus Pandemic: A Latent Transition Analysis. *International Journal of Bank Marketing*. <https://doi.org/https://doi.org/10.1108/IJBM-11-2022-0496>
- Lusardi, A., & Mitchell, O. (2014). The economic importance of financial literacy: Theory and evidence. *Journal of Economic Literature*, 52, 5–44. <https://doi.org/10.1257/jel.52.1.5>
- Malhotra, N. K. (2019). *Marketing research: An applied orientation* (7th ed.). Pearson.
- Muir, K., Hamilton, M., Noone, J., Marjolin, J., Salignac, F., & Saunders, P. (2017). Exploring Financial Wellbeing in the Australian Context. Retrieved from Centre for SOcial Impact & Social Policy Researchi Centre.
- Nguyen, M. (2021). Financial Well-Being of Vietnamese Students. *Investment Management and Financial Innovations*, 18(4), 355–365. [https://doi.org/10.21511/imfi.18\(4\).2021.29](https://doi.org/10.21511/imfi.18(4).2021.29)
- Prawitz, A. D., Garman, E. T., Sorhaindo, B., Neill, B. O., & Kim, J. (2006). InCharge Financial Distrees/Financial Well-Being Scale: Development, Administration, and Score Interpretation. *Association for FinancialCounseling and Planning Education*, 34–50.
- Rajani, N. B., Giannakopoulos, G., & Filippidis, F. T. (2016). Job insecurity, financial difficulties and mental health in Europe. *Occupational Medicine*, 66(8), 681–683. <https://doi.org/10.1093/occmed/kqw111>

- Renaldo, N., Sudarno, S., & Boru, M. (2020). The Improvement of Generation Z Financial Well-Being in Pekanbaru. *Jurnal Manajemen Dan Kewirausahaan*, 22(2), 142–151. <https://doi.org/10.9744/jmk.22.2.142-151>
- Selvia, G., Rahmayanti, D., Afandy, C., & Zoraya, I. (2021). The Effect of Financial Knowledge, Financial Behavior and Financial Inclusion on Financial Well-being. *Proceeding of the 3rd Beehive International Social Innovation Conference, BISIC*. <https://doi.org/10.4108/eai.3-10-2020.2306600>
- To, W. M., Gao, J. H., & Leung, E. Y. W. (2020). The Effects of Job Insecurity on Employees' Financial Well-Being and Work Satisfaction Among Chinese Pink-Collar Workers. *SAGE Open*, 10(4). <https://doi.org/10.1177/2158244020982993>
- Vallejo-Trujillo, L., & Martínez-Rangel, M. (2016). Perfil de Bienestar Financiero: Aporte Hacia. *Redalyc*, 45(117), 1–23. <https://bit.ly/3cVnbY1>
- Viera, K., Matheis, T., Bressan, A., Potrich, A., Klein, L., & Rosenblum, T. (2023). Construction and Validation of a Perceived Financial Well-Being Scale (PFWBS). *International Journal of Bank Marketing*, 41(1), 179–209. <https://doi.org/https://doi.org/10.1108/IJBM-04-2022-0148>