

SURVEY OF FINANCIAL RISK TOLERANCE

AUSTRALIAN TECHNICAL REPORT

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Survey of Financial Risk Tolerance - Australian Technical Report

Overview

The Survey of Financial Risk Tolerance (SOFRT), first released in 1994, was developed by The American College, a private university established by the insurance industry in the 1920s to provide specialised distance education. The survey's author is Michael J. Roszkowski PhD, Associate Professor of Psychology at the College, an acknowledged expert in the relationship between psychological and financial variables. The purpose of the survey is to increase a financial adviser's understanding of their client's level of risk tolerance, thereby enabling him/her to more effectively provide advice that matches this level of risk tolerance. This is important in order for the client to feel comfortable with their financial decisions and for the planner to be able to demonstrate that their advice was consistent with their client's risk tolerance at the time of making the decision.

The SOFRT is the only measurement technique recommended in the Institute of Certified Financial Planners' publication, *Personal Financial Planning: A CFP Practitioner's Guide*, and research in the United States has revealed it to possess good reliability and criterion validity (Roszkowski, 1993-97).

This report presents the results of research conducted by Chandler & Macleod Consultants that had the following aims:

- 1) To confirm that US research into the psychometric properties of the SOFRT was conducted along sound scientific principles
- 2) To determine the useability of the SOFRT and to make revisions where necessary
- 3) To establish the Australian database for the SOFRT
- 4) To assess the adequacy of the SOFRT's psychometric properties in an Australian environment
- 5) To compare the performance of the SOFRT in an Australian environment to its performance in an American environment.

Method

The study was completed in the following phases:

- 1) The US research was reviewed and found to have been conducted along sound scientific principles
- 2) The questionnaire was edited to Australianise the language and terminology
- 3) The revised questionnaire was successfully trialed on a pilot group for understandability following the initial editing
- 4) Six hundred and two clients were sent the questionnaire to complete by various financial planning groups that were participating in the study. All clients were rated independently by their financial planners for risk tolerance on a 7 point scale where a high score indicated high risk tolerance.
- 5) An analysis was conducted of the 247 questionnaires returned to establish the Australian database, as well as the reliability, validity, consistency and useability properties of the test.

Summary of Analysis

A preliminary analysis sought to establish whether there was any difference in risk tolerance between those who completed the questionnaire and those who did not complete it as revealed by financial planners' assessments of their clients' risk tolerance. The mean rating for those who did not return their questionnaires was 3.96, while for those that did return their questionnaires, the mean rating of risk tolerance was 3.94. The conclusion reached was that the sample returning their questionnaires did not show any differentiating risk tolerance characteristics from the sample not returning their questionnaires.

Descriptive Statistics

The total SOFRT scores were calculated using an algorithm that corrected for missing responses and the fact that different questions had different numbers of possible answers. The following descriptive statistics were obtained from an analysis of the total SOFRT scores:

Mean	41.304	Standard Deviation	10.985
Kurtosis	-0.167	Standard Error Kurtosis	0.309
Skewness	0.068	Standard Error Skewness	0.155
Minimum	15.00	Maximum	73.00

Table 1: SOFRT descriptive statistics

The mean and mode of the US sample (Roszkowski, 1993) was calculated as 43, which is very similar to the mean obtained from the current analysis. The standard deviation of the US set was 11, which is identical to the figure obtained here. These figures taken together suggest that the distribution of risk tolerance is very similar amongst Australian and US populations. Appendix A contains the distribution of SOFRT scores for the sample studied here.

Reliability

Reliability was measured using Cronbach's Alpha which was calculated for the test as a whole, and was found to be 0.90. When questions 30 and 33 are deleted from the analysis, this figure rises to 0.91 (the highest reliability possible for any combination of questions). Both of these figures are higher than the recommended minimum alpha of 0.85 and are almost identical to the figure obtained from the US data set which found an alpha of 0.91.

Validity

Criterion validity was determined through assessing the correlations between test scores and a number of demographic variables, including age, income, and education, that are known to be related to levels of risk tolerance. In addition to the correlations with demographic data, the test as a whole was correlated with adviser estimates of risk tolerance, and clients' self reported risk tolerance. These variables, and the resulting correlations, are shown below in Table 2:

	SOFRT Score
Age	-0.39
Income (self)	0.35
Income (spouse)	0.41
Education	0.32
Self Estimate	0.68
Adviser Estimate	0.38

Table 2 : Correlations between SOFRT scores and variables used to establish criterion - related validity

All of the above correlations are significant at the $\alpha = 0.005$ level and they are of the magnitude and direction predicted from the research literature, thus providing evidence for criterion - related validity. They also match the results found from the US sample.

Consistency of Scores

The consistency scores were developed as a means of estimating the similarity of any one answer that somebody gives to their test score as a whole. The purpose of the consistency scores is to spot people whose responses are not compatible with each other. Such people may be asked to complete the survey again, or their results may not be used to make decisions about the makeup of their investments. The consistency of the SOFRT scores was calculated using a complex algorithm. The descriptive statistics for the consistency scores are shown below in Table 3:

Mean	18.722	Standard Deviation	2.622
Kurtosis	0.322	Standard Error Kurtosis	0.309
Skewness	0.348	Standard Error Skewness	0.155
Minimum	11.37	Maximum	27.00

Table 3: Consistency Score Statistics

These figures are very similar to the figures obtained from the American sample which produced a mean of 19, standard deviation of 2.7, and skewness of 0.22.

Useability

A useability assessment was attached to the questionnaire. Respondents were asked to rate the overall ease with which they managed to understand and answer the questionnaire on a 5 point scale, where a rating of 5 indicated the most difficulty. The average rating for ease of understanding was 1.8, while the average rating for ease of answering was 2.1. This indicates that most respondents found the questionnaire easy to understand and answer. Respondents were also invited to indicate particular questions with which they had difficulty. Twenty-three out of the forty questions did not pose any difficulty in terms of understanding for any of the respondents. The remaining questions posed difficulty for an average of only one percent of the respondents. In terms of ease of answering particular questions, 17 out of the 40 questions did not pose any difficulty for any respondent. The remaining questions posed difficulty for an average of only 2.8% of respondents.

In summary, evidence of high useability was obtained from this research. Ongoing improvements of the useability of the test are being instituted, and some items will be modified or dropped from future releases of the questionnaire.

Conclusions

The Australian version of the SOFRT provides a valid, reliable and useable assessment of a person's financial risk tolerance. Furthermore, the overall pattern of results of the analyses closely matches the results obtained from the administration of the SOFRT to US subjects. The descriptive statistics, reliability, validity, and consistency obtained through the current analysis are almost identical to the figures obtained in the US. The similarity of the figures implies that the SOFRT, adapted to an Australian population, will perform in the same way as the original survey applied to subjects in the US.

REFERENCES

Roszkowski, M. J., (1993-97). Technical Information about the Survey of Financial Risk Tolerance. Unpublished Data.

APPENDIX A - DISTRIBUTION OF SOFRT RAW SCORES

Score	Frequency	Percent	Cum. Percent
15.00	1	0.4	0.4
18.00	4	1.6	2.0
19.00	1	0.4	2.4
20.00	2	0.8	3.2
22.00	1	0.4	3.6
23.00	2	0.8	4.5
24.00	7	2.8	7.3
25.00	5	2.0	9.3
26.00	6	2.4	11.7
27.00	4	1.6	13.4
28.00	3	1.2	14.6
29.00	2	0.8	15.4
30.00	4	1.6	17.0
31.00	4	1.6	18.6
32.00	4	1.6	20.2
33.00	7	2.8	23.1
34.00	5	2.0	25.1
35.00	9	3.6	28.7
36.00	6	2.4	31.2
37.00	9	3.6	34.8
38.00	9	3.6	38.5
39.00	13	5.3	43.7
40.00	8	3.2	47.0
41.00	9	3.6	50.6
42.00	11	4.5	55.1
43.00	9	3.6	58.7
44.00	6	2.4	61.1
45.00	11	4.5	65.6
46.00	10	4.0	69.6
47.00	5	2.0	71.7
48.00	7	2.8	74.5
49.00	7	2.8	77.3
50.00	8	3.2	80.6
51.00	4	1.6	82.2
52.00	5	2.0	84.2
53.00	10	4.0	88.3
54.00	2	0.8	89.1
55.00	4	1.6	90.7
56.00	4	1.6	92.3
57.00	1	0.4	92.7
58.00	1	0.4	93.1
59.00	4	1.6	94.7
60.00	1	0.4	95.1
61.00	2	0.8	96.0
62.00	2	0.8	96.8
63.00	2	0.8	97.6
64.00	3	1.2	98.8
68.00	1	0.4	99.2
70.00	1	0.4	99.6
73.00	1	0.4	100.0
Total	247	100.0	