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## Construct validity of financial literacy



Michael Schuhen\*, Susanne Schürkmann

University of Siegen, Germany

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### ABSTRACT

Various studies deal with the assessment of financial literacy. However, it is not always obvious whether actual competencies are assessed or if it is rather a measurement of knowledge or attitudes. Furthermore, it is questionable if the construct that is supposed to be assessed is valid. Using the Financial Literacy Study as an example, the following article describes how the underlying theoretical construct can be validated. The validation is based on the measurement of financial literacy through Rasch-modelled values, which are verified by means of structural equation models.

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## 1. Introduction

The Programme for International Student Assessment (PISA) analyses literacy of adolescents aged 15–16 in the member states of the Organisation for Economic Co-operation and Development (OECD). The study is repeated every three years. In 2012, there was an additional assessment of financial literacy, which gained increased research and media attention. Germany and Austria, however, like some other countries,<sup>1</sup> did not participate in the assessment of financial literacy.

When asked, the project coordinators in charge in Germany and Austria mentioned doubts with regards to the preliminaries and the construct validity that were published in the Financial Literacy Framework of the OECD. According to the German Standing Conference of the Ministers of Education and Cultural Affairs (Kultusministerkonferenz) the current version of a Financial Literacy assessment is not sufficiently developed and reliable findings are therefore not possible (Sälzer, 2013, p. 56). The

\* Corresponding author. Tel.: +49 2717403146.

E-mail address: [schuhen@zoebis.de](mailto:schuhen@zoebis.de) (M. Schuhen).

<sup>1</sup> The 18 countries or regions that participated in the additional survey can be found here: <http://www.oecd.org/finance/financial-education/oecd-pisa-financial-literacy-assessment.htm>.

similarity of Financial Literacy with other domains assessed in the PISA study, such as mathematics or reading comprehension tasks is a problem, because the Financial Literacy Framework only refers to a “working definition for the domain and a description of the assumptions that underlie that definition” (OECD, 2013, p. 144). This image is also supported by the “identification of a set of key characteristics that should be taken into account when constructing assessment tasks for international use” (OECD, 2013, p. 144), which is the first step in the working programme.

Taking up the scepticism of the countries that did not participate, this article consists of three steps: Leading from a focused discussion of the present state of research with regards to the dimensions “processes”, “contexts”, “test design” and “content” which are relevant for competence assessment, a categorically motivated approach for the fixing of content fields will be introduced. This approach was also used when identifying the content for the Financial Literacy Study (FILS). FILS is a computer-based study designed for 15–16 year old students from German general schools. The concept of FILS uses clearly defined content areas of financial literacy that were identified with help of related literature. The content areas refer to aspects from the students’ direct environment and also introduce them to future scenarios from the working world for example. Among the study’s goals are a competency specific assessment and validating the study’s foundation. We would like to show that the theory driven structure of a study and their content specific assessment are elementary to studies about financial literacy, especially taking into consideration that no coherent studies exist in current research on the topic and that, therefore, it is not possible to validly interpret these studies’ results. This and the validity of the resulting content construct of FILS are shown by means of a structural equation model (SEM).

## 2. A brief summary of research

Competence assessment is based on three different perspectives. “*Content* comprises the areas of knowledge and understanding that are essential in the area of literacy in question. *Processes* describe the mental strategies or approaches that are called upon to negotiate the material. *Contexts* refer to the situations in which the domain knowledge, skills and understandings are applied, ranging from the personal to the global” (OECD, 2013, p. 146). In the following, those dimensions are expanded by the perspective “test design”.

### 2.1. Focus context

Most studies about financial literacy aim at examining the knowledge and the competences of adults or students. Consequently, questions usually refer to their life context in particular and discuss their consumer education (Disney and Gathergood, 2012), their investment behaviour (Guiso and Jappelli, 2008) or changes in investment behaviour caused by the financial crisis (Bucher-Koenen and Ziegelmeyer, 2011) as well as their attitude towards retirement provision and debt (Lusardi and Mitchell, 2006; Lusardi and Tufano, 2009).

Many of those surveys are based on questions stemming from Lusardi et al. Their validity has been checked within the context of the Health and Retirement Study 2004. For this study, however, the questions had to be simple, relevant, and short. They also should have the capacity to differentiate (Lusardi and Mitchell, 2011). Therefore, the testlet design with one stimulus and several individual tasks as it is usually used in competence assessment (Wainer et al., 2007; Pommerich and Segall, 2008; Sireci et al., 1991) could not always be applied. Approaches can be seen in the following sequence of questions (Lusardi, 2008, p. 5):

1. Suppose you had \$100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow: more than \$102, exactly \$102, less than \$102?
2. Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, would you be able to buy more than, exactly the same as, or less than today with the money in this account?

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