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Eveline Wuttke / Jürgen Seifried / Stephan Schumann (eds.)

Economic Competence and Financial Literacy of Young Adults

Status and Challenges

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Eveline Wuttke • Jürgen Seifried

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Editorial: Economic Competence and Financial Literacy of Young Adults – Status and Challenges

In modern society, the ability to deal with financial and economic matters is becoming increasingly important. This is true for both professionals – e.g., in the investment and banking sectors – and for individuals responsible for managing their financial and economic affairs in everyday life (Aprea et al., in press). This ability is generally described as economic competence, economic literacy or financial literacy. Despite the importance of these constructs, there is still a lack of clarity regarding the exact definitions, and specifically, which components they cover in detail. Furthermore, the terms economic competence and financial literacy are only loosely coupled. Economic competence is usually considered to be more comprehensive than financial literacy. However, recent research on financial literacy has followed a broader approach as well.

The increasing relevance of these competences is driven primarily by various socio-economic factors currently challenging most industrialised countries (OECD, 2005; e.g. structural changes in the financial services and in the labour market, decline of the welfare state, as well as demographic change). As a result, a wide-ranging transfer of risk from governments and employers to employees and consumers has occurred (e.g., reduced state-supported pensions, reduced health-care benefits). This imposes the responsibility to care for current and future financial security onto individuals. Furthermore, it is important that individuals using financial intermediaries and advisors understand the services that are being offered. This is particularly important for adolescents and young adults, as younger generations are more likely to have to bear more financial risks in adulthood than their parents. Finally, financial and economic issues play a vital role in current conceptions of citizenship education.

This book will concentrate on economic competence and financial literacy of young adults in the US, Europe and South America. The subjects of the research are mainly individuals who have begun an apprenticeship or university education. Economic competence and financial literacy are of special interest for this group because they are usually in the unique position of being responsible for managing their own financial affairs autonomously, often for the first time. Furthermore, economic competence is key to social participation and active citizenship.

Overview

The book contains two sections – the first section delves into financial literacy.

The first paper describes the development of a comprehensive financial literacy framework. This is followed by three papers that present results on different facets of financial literacy, starting with students' understanding of the financial system in the UK, and followed by results on financial literacy and financial behavior among young adults in the US, and finally, financially literate decision making in first-time homebuyers.

Section two of this book covers different facets of economic competence. This section opens with two papers analyzing economic competence, specifically the factors influencing the economic competence of students in upper secondary education. The first paper examines learners' economic competence in Switzerland and the second paper focuses on the effects of students' sociocultural background on economic competencies.

The following two papers concentrate on apprentices in the German dual system of vocational education. Their focus is on the importance of economic competencies as key elements of vocational development and on opportunity recognition as part of intrapreneurship competence. Finally, the last two papers are concerned with higher education, namely the increasing heterogeneity in business and economics students' prior knowledge and the necessity for teacher education to include a strong foundation in economics.

The following overview will briefly introduce each paper. We will outline the definition and characteristics of the underlying construct (financial literacy or economic competence), the research question, key findings and implications. We will also note connections between the two underlying constructs (economic competence to financial literacy or vice versa).

Section I – Financial Literacy

(1) Seraina Leumann, Michael Heumann, Fatima Syed, and Carmela Aprea: Towards a Comprehensive Financial Literacy Framework: Voices from Stakeholders in European Vocational Education and Training

The authors present a definition of financial literacy that includes individual and systemic facets as a basis for their comprehensive framework of financial literacy. The individual facets cover financial decisions in daily life, and counselling and sales situations focused on the consumer. Based on a systemic orientation, the approach also covers contextual issues of the economy and society, as well as economic and political framework conditions (second facet). Furthermore, both facets address cognitive (knowledge, skills and abilities) as well as non-cognitive (emotional, motivational and volitional) aspects of financial literacy. With this holistic approach, a series of interviews were conducted with experts to answer two research questions: (1) How do experts and stakeholders elaborate different facets of financial literacy within a holistic framework? (2) How important do experts consider each facet to be? Results show that a broad view of financial literacy is seldom present, as the inter-viewees generally focused on individual cognitive components, neglectting systemic and non-cognitive facets. Consequences are discussed in the paper.

(2) Peter Davies, Fatima Syed, and Lindsey Appleyard: Secondary School Students' Understanding of the Financial System

Comparable to the approach of Leumann and her co-authors, Davies et al. base their work on a comprehensive definition of financial literacy. This definition goes beyond financial literacy as a matter of personal responsibility, and includes the understanding of public money management and financial sector behaviour. Against this background, the authors conducted a number of interviews to investigate what conceptions young people hold about debt, risk, interest payments and time preference. Furthermore, the authors analyzed to what extent these conceptions are consistent across different contexts (such as individual, government, and banking sector). Their results identify several inconsistencies in young people's conceptions, and show fragmentation and misconceptions limiting students' thinking about public finances. Consequences and further research questions are addressed in the paper.

(3) Elizabeth Breitbach and William B. Walstad: Financial Literacy and Financial Behavior among Young Adults in the United States

The focus of this study is on financial literacy and financial behavior of young adults. Financial literacy is seen as a matter of responsibility for finance-related decisions of people, especially of young adults in the United States. The data used in the study is taken from the "National Financial Capability Study" (NFCS). The survey includes questions about financial behaviors related to matters like credit card use, household purchases, bank accounts, student loans, and retirement saving. In addition, the survey contains questions for measuring an individual's financial literacy. The results show that young adults in the US have significantly lower levels of financial literacy than middle aged or older adults. Within the sample of young adults, females, minorities, and individuals with low levels of education and income were found to have especially low financial literacy. The NFCS data set was also used to study the relationship between financial literacy and different financial behaviors. In line with previous assumptions, young adults with higher levels of financial literacy are less likely to exhibit costly or problematic financial behaviors.

(4) Bärbel Fürstenau, Mandy Hommel, Claudia Leopold, Héctor Ponce, and Mario López: Analysis of Banks' Online information Regarding Mortgages as a Basis for Financially Literate Decision-Making in First-time Home Buying

The authors base their article on the widely recognized definition of financial literacy as "knowledge and understanding of financial concepts and risks, and the skills, motivation and confidence to apply such knowledge and understanding to make effective decisions across a range of financial contexts, to improve the financial well-being of individuals and society, and to enable participation in economic life" (OECD 2013: p. 144). They argue that in order to make responsible decisions, individuals need to be familiar with concepts, procedures, effects, and risks related to complex financial products. The authors believe it is not sufficient to rely on the recommendations of financial product providers. They list home purchases and mortgage loans as two specific examples of fields that require financial literacy. Consumers often rely on information and calculators provided online, often by banking institutions. Against this background, the authors investigate possible similarities and differences between bank calculators within and across countries. They explore whether differences between banks' calculators and reference calculators exist. Their results show that the calculators differ remarkably between countries, sometimes being far from the recommendations.

Section II – Economic Competence

(1) Doreen Holtsch and Franz Eberle: Learners' Economic Competence in Switzerland: Conceptual Foundations and Considerations for Measurement

This paper presents and applies a competence structure model to commercial apprentices. The authors provide a comprehensive understanding of economic competence, which has been developed within the framework of the

Swiss Leading House *Learning and Instruction for Commercial Apprentices* (LINCA). The definition comprises both cognitive and non-cognitive aspects. In line with the objectives of Swiss economic education, two domains are taken into account: a civic-economic and a commercial domain. Finally, within these dimensions, domain-specific and domain-related competencies are differentiated and specified. Instruments to measure economic competencies have also been developed.

(2) Andreas Jüttler and Stephan Schumann: Effects of Students Sociocultural Background on Economic Competencies in Upper Secondary Education

There is a large amount of research focusing on sociocultural effects within educational systems, but a shortage of research on economic competencies. This paper aims to address this gap by providing deeper insights into the relationship between learners' sociocultural characteristics and economic competencies. The research analyzes data from a representative sample of high school graduates from Baccalaureate Schools and Federal Vocational Baccalaureate Schools of the German speaking part of Switzerland (N = 2.348). A broad definition of cognitive and non-cognitive dimensions is used to measure economic competencies. The results show that differences in economic competencies are mainly explained by the school profile (such as a commercial vs. non-commercial school profile). In addition, migration background variables influence competencies. However, the effect is rather small. No significant effect for other sociocultural variables can be observed.

(3) Esther Winther, Dagmar Festner, Julia Sangmeister, and Viola Katharina Klotz: Facing Commercial Competence: Modeling Domain-Linked and Domain-Specific Competence as Key Elements of Vocational Development

The study aims to identify the relationship between domain-linked and domain-specific competencies. Both types of competencies are seen as crucial elements of vocational competence for apprentices in commercial domains. A comprehensive model, including both domain-specific and domain-linked vocational competencies is used. Using a computer-based test environment, competences of N = 468 industrial apprentices were assessed. Results show that domain-linked competences significantly influence the mastery of commercial and economic situations at the workplace. Furthermore, there is evidence that commercial competence can be distinguished into a domain-linked and domain-specific dimension.

(4) Christine Weiß and Susanne Weber: Opportunity Recognition as Part of Intrapreneurship Competence – An Analysis of Exam Essays of German Industrial Clerks

In this paper, the authors address the importance of opportunity recognition within VET as part of intrapreneurship competence. The paper frames the topic around fundamental political, socio-economical and educational changes. The researchers use a broad understanding of intrapreneurship on an individual level whereby continuous innovations are seen as the result of intrapreneurial thinking and acting. Furthermore, the authors provide a three-stage model of opportunity recognition, which is based on an evidence-centred assessment design and combines convergent and divergent thinking. The study focuses on industrial clerks at the end of their three-year vocational training program in Germany. The results indicate that opportunity recognition is very important for enterprise success as well as for trainees' ability to shape their occupational career autonomously. Additionally, an objective, reliable and valid model of opportunity recognition is provided by the authors, which can be used for future research.

(5) Roland Happ, Olga Zlatkin-Troitschanskaia, Klaus Beck, and Manuel Förster: Increasing Heterogeneity in Students' Prior Economic Content Knowledge – Impact on and Implications for Teaching in Higher Education

The authors address the issue of increasing heterogeneity among business and economics students in higher education, especially when it comes to prior content knowledge. A longitudinal multi-level model was developed to explain differences in economic content knowledge of students over time. The German adaption of the widely used Test of Economic Literacy (TEL, Soper & Walstad, 1987) by Beck and Krumm (1998) was used to measure students' economic knowledge. Students' prior knowledge was identified based on their educational background. The authors found that students' initial knowledge, especially prior content knowledge, had a significant influence on academic achievement. The research indicates the importance of providing teachers with formative performance assessments, and information about students' prior knowledge. Finally, the impact of teaching methods such as "Just-in-Time"-teaching or tailor-made preparation courses for students are discussed.

(6) Christin Siegfried: The Necessity for Well-Founded Teacher Education in Economics – Findings from Curriculum Analyses

Due to the increasing importance of economic knowledge in modern society, it is argued that economic education should be offered in general education. This implies that teachers in general education should receive an economic education themselves. In Germany, most federal states have implemented economic education in schools, however, teacher education shows some deficits. By analyzing school curricula (middle and grammar school) and university based learning opportunities, the author presents notable discrepancies between university and school curricula. Deficits also exist in middle and grammar schools curricula. The initial results suggest that prospective teachers in the field of economics lack teaching qualifications (especially content knowledge). Therefore, the development of adequate school and university curricula are important to match prospective teachers' to the needs of students in economic education and the demands of a modern society.

Outlook

The papers in this volume represent different approaches to measure and analyze financial literacy and economic competence. It becomes apparent that the conceptualizations are quite different. Some concepts are more comprehensive (such as the approaches to financial literacy presented by Leumann et al. and Davies et al. or the approach of economic competence presented by Holtsch & Eberle and Jüttler & Schumann), whereas others focus more strongly on specific facets of a respective competence (for example, Fürstenau et al. with home buying as one facet of financial literacy or Happ et al. with economic knowledge as facet of economic competence).

The increasing trend in identifying financial literacy as a broad construct, demonstrates the need for a systematic alignment with the concept of economic competence. The first step towards this is a stronger mutual consideration of literature on these concepts. So far, both strands are only loosely coupled. Furthermore, a stronger interrelation of financial literacy and economic competence will have major implications for measurement, results (and their interpretation) and for the development of support strategies in educational and private contexts.

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Section I:
Financial Literacy

1 Towards a Comprehensive Financial Literacy Framework: Voices from Stakeholders in European Vocational Education and Training

Seraina Leumann, Michael Heumann, Fatima Syed and Carmela Aprea

1.1 Introduction

In modern economies, the ability to reasonably deal with money and financial matters is becoming increasingly vital – not only for professionals in the sector of investment and banking, but for every individual responsible for managing his or her financial affairs in everyday life. The ability to manage personal finance well comes under the umbrella of "financial literacy". The increasing importance of financial literacy is driven primarily by various socio-economic factors currently challenging most of the European (and other industrialized) countries. Among others, these include structural changes in the financial services and in the labour market; decline of the welfare state; and last, but not least, demographic change. This has resulted in the transfer of risk from the government to the individual in the shape of reduced state-supported pensions and health-care benefits. As a consequence, individuals are increasingly becoming responsible for planning and managing personal events such as illness, unemployment or retirement. Furthermore, if individuals use the services of financial intermediaries and advisors, they need to understand what is being offered to them as even standard procedures like electronic payments, which have replaced face-to-face transactions, require a certain amount of financial knowledge and skills. All this is growing in importance as far as adolescents and young adults are concerned mainly because younger generations are more likely to have to bear greater financial risks in adulthood than their parents. In addition, they are consumers of financial services such as online payment, mobile phones etc. from a young age (cf. Reifner 2011). Last but not least, knowledge and understanding of national financial and economic policy and its implication on citizens play a vital role in current conceptions of citizenship education. Young people need to be empowered to play an active democratic role as well as develop a broader understanding of the financial world (cf. Davies 2006). Given the fact that in many European countries, a substantial number of young adults enters vocational education (e.g. 75 percent in Switzerland, more than 60 percent in Germany, about 78 percent in Austria and nearly 50 percent in Italy; OECD 2014), the context of Vocational Education and Training (VET) could play an essential role in the promotion of financial literacy. This fact, in turn, presupposes the availability of an educationally sound and holistically encompassing conceptual framework for guiding the diagnosis of financial literacy and promoting the development of financial education interventions.

Despite the high relevance and actuality of this topic; however, it is still largely unclear how the underlying construct can be adequately conceptualised from a (vocational) education perspective that includes not only functional aspects but considers the whole person, and particularly his or her development of interests and values as well as his/her role as citizen. Against this background, the aim of the research presented here is to contribute to the elaboration of a holistic conceptualisation of financial literacy encompassing the above-mentioned personal, emotional and national aspects. A possible approach for addressing this goal, in addition to a thorough literature review, is the consideration of key stakeholders' views. In this paper, an interview study will be presented that was carried out against the backdrop of a review and analysis of international research literature on conceptualisations of financial literacy and the resulting construct dimensions. The study is based on the reconstruction of perspectives of financial literacy of stakeholders in VET and from the financial sector dealing with finance education.[1] The focus of interest is firstly on the perceived facets of financial literacy and secondly, on the appreciation of their importance. The results will help to further elaborate the concept of financial literacy and form the basis for the development of diagnostic instruments for the assessment of financial literacy in VET contexts. Based on assessment results, appropriate learning arrangements for the target group can be developed as the next step.

1.2 Existing Conceptualisations of Financial Literacy

The conceptualisation of financial literacy can be located within the international research literature under three main strands. Each one depicts a specific model of a financially literate person with specific educational concepts (cf. Aprea 2014).

1 This paper is an extended version of the contribution by Aprea et al. 2015. Besides focusing on different parts of the interviews, an enlargement of the data base is provided here. Whereas the latter contribution exclusively embraces stakeholders from German speaking countries, the present paper gives more encompassing insights by including voices from Italy, Portugal and the UK. With this we intended not only to further substantiate and/or differentiate our interpretations but also to make a first attempt to compare different European countries.

1.2.1 Manager of personal finance

This direction is currently the most diffused conceptualisation of financial literacy. It is basically oriented towards financial decisions made in personal life, including budgeting, everyday payments, use of credits, insurances of life risks, wealth building and retirement provision (e.g., Schlösser et al. 2011). The emphasis is on making rational and well informed choices. The general princicple of this group of conceptualisations is expressed in the following quotation by the former American Federal Reserve chairman, Ben Bernanke: "The recent crisis demonstrated the critical importance of financial literacy and good financial decision making, both for the economic welfare of households and for the soundness and stability of the system as a whole. Good financial choices depend on reliable and useful information, presented in an understandable way. *Essential components of personal financial management include an understanding of how to budget strategically, use credit, save to build personal wealth, and shop for and choose suitable financial products."* (Bernanke 2011; emphasis added). Educational efforts would then specifically focus on strengthening the knowledge and understanding of financial facts important for personal finance management.

The conceptualisation of financial literacy as personal finance management tool is reflected for instance in the Pisa 2012 Financial Literacy Framework launched by the OECD, which is based on the following definition: "Financial literacy is knowledge and understanding of financial concepts and risks, and the skills, motivation and confidence to apply such knowledge and understanding in order to make effective decisions across a range of financial contexts, to improve the financial well-being of individuals and society, and to enable participation in economic life." (OECD 2012: 13).

Conceptualisations of financial literacy as personal finance management tool attempt to focus on central decision-making areas of financial literacy. Therefore, they, potentially, are more likely to represent and predict decision-making behaviours than knowledge-related conceptualisations. Nevertheless, because they are restricted to personal financial aspects, they are flawed with a central problem regarding the desideratum of a holistically oriented approach towards financial literacy education, as mentioned in the introduction.

1.2.2 Informed consumer

Some conceptualisations of financial literacy broaden the perspective of personal finance management by including the aspect of responsible and critical consumption in a financial context. Besides the ability to critically reflect and purposefully control own needs and buying decisions, special reference is made here to the functions and interests of financial services providers. Following this approach, a central objective of financial education would be the reduction of information asymmetries in the advice and sale of financial products. This also includes information on consumers' rights and obligations. Thus, the central element in such a conceptualisation is the consumers' relation to other actors in a financial context. Therefore, we term conceptualisations within this group also as *relational approaches of financial literacy*. In the Anglo-Saxon world this is, for instance, the view of Atkinson et al. (2007) or Rutledge (2010). In German-speaking countries, this position is represented by the Institute of Financial Services (iff) which regards financial literacy education as "the critical, user-oriented conveying of common knowledge, understanding and social action competence in dealing with financial services built on credit facilities, which people use for themselves outside their professional sphere in order to reasonably combine income and expense, work and consumption throughout their lifetime" (Reifner 2008).

As emphasized, for instance, by Neumaier (2012), this conceptualisation might be vulnerable to an abusive functionalization, principally when financial literacy is seen as an alternative to structural and systemic regulatory procedures, and individual financial problems. As a result, negative macroeconomic developments are then accordingly ascribed to personal failure or attributed to personal responsibilities. Such a deficit orientation does not only contradict the educational intention focused on in this article, but also disregards available theoretical and empirical evidence, especially relating to more structural causes of private over-indebtedness (e.g. Meier-Magistretti et al. 2013) or to the development of financial crises (e.g. Krugman 2008). However, in order to be able to appropriately judge these complex relations, this conception of financial literacy that is oriented towards the strengthening of consumers' power has been integrated into a wider structural perspective that is discussed in depth in the following section.

1.2.3 Responsible economic citizen in financial issues

The conceptualisations belonging to this group particularly focus on the ability to understand and participate actively in a democratic economic and financial system. As already mentioned, they place financial literacy into a wider context of economy and society, where citizens are addressed not only as recipients, but also as co-creators of the conditions of the larger economic and political framework. Therefore, we may term this group of conceptualisations also as *systemic approaches of financial literacy*. An integrative example from the Anglo-Saxon world is offered by Davies (2015), according to whom a central task of financial literacy is to enable voters to "have sufficient understanding of financial processes and incentives to create a climate of pressure for politicians which makes it more likely that [they] govern in the public interest" (p. 312). Further examples from the German speaking countries are provided by Hippe (2012) and Remmele and Seeber (2012), who both highlight the embeddedness of financial and economic issues into an economic or socio-economic framework. Furthermore, similarities can also be identified between this third group of conceptualisations on financial literacy and certain approaches to economic and civic competence in the German language region (Dubs 2014, Eberle 2015, Schank & Lorch 2014, Schumann & Eberle 2014, Ulrich 2007).

The conceptualisations that view financial literacy as part of an extensive economic or socio-economic framework can be considered as the most encompassing ones and, at the same time, the most useful ones for the educational objective pursued here. However, the current conceptualisations of financial literacy do not seem to take into account the emotional and motivational factors behind financial decisions as well as questions regarding related social values and norms. Taking into consideration findings from cognitive psychology (e.g., Gigerenzer 2008), brain research (e.g., Damasio 2006) and conceptual change studies (e.g., Sinatra & Mason 2008), the omission of these aspects seem questionable as factors influencing (financial) behaviour and learning and development processes are an important aspect of financial literacy. Our study, thus, takes into account that the construct of financial literacy is not exclusively informed by cognition. Attitudes (e.g., towards money, cf. Barry 2014) and motivational aspects (e.g., the ability to delay gratification, cf. Wuttke & Aprea 2014) play an important role as well.

1.3 A Holistic Approach to Financial Literacy: A Four-Facet-Framework

Against the backdrop of the presented considerations, two dimensions of financial literacy can be discerned – "content" and "personal resources". The first dimension of "content" comprises, in terms of a continuum, the characteristic "individual vs. systemic". This dimension refers to the first two types of concepts of financial literacy outlined above. The characteristic "individual" focusses on the individual as a consumer making financial decisions in personal and market environment whereas the characteristic called "systemic orientation" subsumes issues of the larger context of economy and society as well as economic and political framework conditions. On the other hand, the second dimension of "personal resources" contains the characteristics "cognitive" and "non-cognitive". "Cognitive" refers mainly to knowledge, skills and abilities. Non-cognitive dispositions imply emotional, motivational and volitional aspects as well as social values and norms, which can also be understood as personal traits and characteristics.[2] Based on these dimensions, four facets of financial literacy are emerging: individual cognitive, individual non-cognitive, systemic cognitive, systemic non-cognitive. These four facets underlie the following study as they form the basis for the analysis scheme (see in detail http://www.flinevet.eu).

Following a holistic approach to financial literacy, the central aim of the interview study was to analyse key stakeholders' views on the above mentioned four facets of financial literacy and on their respective importance. The research questions, therefore, are the following:

(1) How do the key stakeholders elaborate the four facets of financial literacy within a holistic framework?

(2) What importance do they attribute to each facet?

A further aim of this approach was to fill out the analysis scheme with content that can be used, in future, to create test items.

1.4 Method

The interview study was conducted in the context of the EU Leonardo Da Vinci Lifelong-Learning-Project "Financial Literacy in European Vocational Education and Training (FLin€VET)". The project brought together a group of partners with different missions and expertise in VET practice and research (e.g., Universities, VET Providers, Teachers and Teacher Trainers, Associations dealing with VET and labour market) from six different countries, namely Austria, England, Germany, Italy, Portugal and Switzerland.[3] The overall aim of the project was to analyse conceptualisations and curricula in the area of financial literacy in different countries.

Sample of the interview study: With regard to the sampling of the participants, three groups of key stakeholders with different points of contact with the financial (vocational) education context were identified: (1) finance education experts, who are involved in the development of teaching materials or in the provision of consultation to concerned adolescents, (2) VET teachers and company trainers, who teach financial issues at VET schools or in training companies, and (3) VET students, who are the directly affected target

2 With the term "non-cognitive" we want to contrast conceptions that solely consider cognitive aspects such as knowledge, abilities and skills. Of course we are aware that this distinction is of analytical nature, and that non-cognitive aspects such as motivation and attitudes also contain cognitive elements.

3 Further information about the project can be found on the project website (http://www.flinevet.eu).