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Variations of Young Germans' Informal Conceptions of Financial and Economic Crises Phenomena

The development of a sound understanding of financial and economic crises phenomena must be considered an important goal within the scope of citizenship, economic and social science education. As with every other educational endeavour, this intention requires solid information about what informal conceptions learners hold about this specific aspect of reality. However, even though this necessity is widely acknowledged, respective theoretical and empirical research is rather scarce. The research to be presented here aims to contribute to filling this gap by exploring variations in young Germans' common-sense conceptions of financial and economic crises phenomena. The research activities adhere to a comprehensive view of how economic issues should be involved in education. Moreover, a phenomenographic research approach is adopted. This approach was implemented in an interview study with 56 secondary school students in Baden-Württemberg (Germany). Besides this study, the paper also considers evidence from German survey data. In the interview study, four different conceptions (i.e., denial of the crisis, magical thinking, optimism, realism) could be reconstructed, which vary with respect to whether students' awareness of specific facets of the crisis was given or not. In addition, from this study as well as from the survey data, an excessively optimistic attitude was stated in young Germans. This attitude, however, seems to be more a symptom of insecurity and overstrain than a manifestation of a profound comprehension. These results are discussed with regard to the design of formal curricula and instruction.

Keywords:

common sense conceptions, economic/financial education, phenomenography

1 Introduction

Given the impact and the persistence of financial and economic crises phenomena, the development of a sound understanding of these phenomena must be considered an important goal within the scope of citizenship, social science, and economic education (e.g., Hippe 2010; Mittelstaedt, Lutz, Wiepcke 2013). As with every other educational endeavour, this intention requires solid information about what informal conceptions¹ learners hold about this specific aspect of reality. In order to determine the point of departure and to optimize respective learning processes, it is, for example, important to know if students consider current crisis phenomena as relevant to their daily life, as well as how they perceive and explain them. However, even though this necessity is widely acknowledged (e.g., Hedtke 2010; Weber 2013), respective empirical research efforts are rather scarce. Two exceptions in this regard are the studies provided by Klee and Lutter (2010) and by Schuhen (2010). In the former study, informal conceptions of the 2008 financial and economic crisis of 11th graders in a northern German comprehensive school

were investigated by using focus group interviews, whereas in the latter study, essay questions were assigned to university students from different disciplines. The questions asked them (a) to provide explanations for the causes of the 2008 crisis, (b) to describe its consequential impact, and (c) to give recommendations for governmental action. The answers to these questions were then compared to argumentation patterns derived from reporting in the media as well as from the scientific discourse on the crisis. Both of these studies consistently indicate that students at all educational levels—and most alarmingly even those who want to become social science teachers—seem to have severe difficulties in adequately understanding the 2008 financial and economic crisis. Similarly to research regarding other complex economic issues (for a synthesis cf. Aprea, under review), especially two typical difficulties appeared:

The students tended to perceive and understand important aspects of the crisis (e.g., causes and consequences) in the light of their everyday experience, whereas scientific concepts were—if ever—portrayed and used only superficially (e.g., at the level of the formal language use).

Moreover, their conceptions tended to be simplistic, fragmented, and monocausal, which is in sharp contrast to the multifaceted and dynamic nature of financial and economic crises phenomena.

These results may be, on one hand, cause for concern and urge the question of the effectiveness of the current

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schooling and university system, as concluded by the above cited authors. On the other hand, they seem not to be particularly surprising as often even more instructed persons—and sometimes also economic experts—struggle to find conclusive explanations for the issue at hand. In order to provide suitable remedies, however, the results not only suggest the need to further elucidate how and why students' everyday conceptions of financial and economic crisis phenomena differ from expert representations, but also to explore how and with regard to what characteristics they vary among each other. This latter question is particularly important for a heterogeneity-sensitive design of curricular pathways and learning environments (e.g. Birke, Seeber 2011). As research on conceptual understanding in other complex content domains also suggests (e.g., Sinatra & Mason, 2008), the observable comprehension difficulties might not only stem from cognitive problems but also be heavily influenced by more affective concerns, which were not yet considered in the above-mentioned prior research studies.

Against the background of these considerations, the research to be presented here combines an interest in further validating the available findings with the aim of amplifying these studies by specifically addressing the differential aspect. Within this perspective, it also seeks to expand the yet prevailing cognitive orientation of financial education by explicitly focusing on how conceptions of financial and economic crises phenomena are embedded within adolescents' and young adults' broader worldviews or value systems, which usually manifest themselves as emotional and attitudinal facets. The underlying motivation for this research is twofold: first, to advance scientific knowledge of how young people perceive and experience the socio-economic reality that surrounds them, and second, to provide a solid foundation for the theory and evidence-based design of curricula and instruction in the field of financial and economic education.

The research activities adhere to a comprehensive view of how economic and particularly financial issues should be involved in education, as it is recently advocated by many scholars in the field. This view emphasises that these issues are not separate from, but embedded within the wider societal and political context, and should thus be part of the broader concept of citizenship education. In addition to this general orientation, the activities are informed by a phenomenographically oriented research methodology. In section 2, both of these approaches—the comprehensive view of financial education (2.1), and the phenomenographic methodology (2.2)—are delineated. Section 3 then addresses empirical evidence regarding variations of young Germans' informal conceptions of financial and economic crises phenomena. More specifically, the design and selected results of an interview study concerned with German secondary school students' conceptions of the 2008 financial and economic crisis are presented (3.1). In order to further substantiate the empirical evidence base, additional

findings from recent surveys in the German context are also provided (3.2). Finally, in section 4, the findings are interpreted in the light of the aims and motivation of the research, including a consideration of their implications for educational practice and research as well as of the suitability and limitation of the applied theories and methods.

2 Conceptual and methodological background

2.1 Comprehensive approach to financial education

Economic, and particularly financial, issues have long been considered as peripheral or sometimes even as detrimental to educational concerns. However, this rather distant relationship seems to have changed in the past decade. Especially since the global turmoil of 2008, financial education has become an important priority for political leaders in many countries and a matter of interest for international organizations such as the World Bank (e.g. Xu, Zia 2012), the European Commission (e.g. 2011), and the Organisation for Economic Co-operation and Development (OECD) (e.g. 2005). Besides helping people to cope with the individual consequences of current structural challenges, such as the demographic change in many Western societies or the decrease of the welfare state, most of these initiatives typically assume that more and/or better financial education should also augment collective financial well-being and foster economic stability. This goal seems to be quite ambitious because it requires people not only to understand the complexities of economic and financial phenomena but also to establish connections among these issues, their own financial decisions, and the broader political and societal context. Such a goal most probably necessitates a holistic approach to financial education. However, if one takes a closer look at the current considerations, it becomes evident that most of them are restricted to a rather individualistic view by exclusively focusing on personal finance management skills and decision making, whereas macroeconomic, systemic, and/or political aspects of the financial landscape are often ignored. These aspects, however, are not only indispensable for sound individual decision making but also particularly important if one considers students' future role as citizens and voters. In this section, we will seize upon this line of argumentation by outlining the key characteristics of a comprehensive approach to financial education.²

A coherent rationale for conceptualizing financial education within a citizenship framework is provided by Davies (2012) who doubts the credibility of financial education approaches that heap all of the responsibility for financial problems upon individuals. Based on a detailed analysis of the recent mis-selling, malpractice, and misjudgements in the financial sector, he opts for an expanded approach, "which alongside personal financial responsibility extends to citizens understanding of the financial sector (and by implication the rationale for regulation) and government finances. The underlying motivation is that democratic processes and economic well-being require voters whose financial understanding



creates functional rather than dysfunctional incentives for government” (Davies 2012, p. 6). Besides traditional financial education contents, for example, personal budgeting, saving, borrowing, or pension planning, such an approach would also include topics such as lending risks, information asymmetries, government budget and debt, and of course financial and economic crisis phenomena. In a similar way, Gallery and Gallery (2010) argue that the factors contributing to the pertaining global financial and economic crises phenomena highlight the need to rethink the scope and nature of current financial education initiatives from different perspectives: first, the perspective of individual decision making; second, the perspective of financial markets and their participants; and third, the perspective of regulation and policymaking. A plea for connecting financial education with a citizenship impetus is also made by Remmele and Seeber (2012) as well as by Carr (2012). In addition, a complementary and inextricable aspect is brought up by Mikl-Horke (2010) who criticizes traditional approaches of financial education for being short-sighted with respect to relational and normative issues. From a sociologist point of view, she particularly emphasises the social and cultural embeddedness of money, financial markets, and the capitalist financial system, and highlights that these entities are constituted by acts of meaning-making. As such, they are closely associated with individual worldviews, including respective emotions and value systems. This line of argumentation is also pursued by Farnsworth (2012) with a specific focus on the relationship between financial issues and identity development, as well as by Lucey (2012) who argues in favour of a financial education view that explicitly seeks to include concerns of morality and justice.

As should have become evident from these considerations, a comprehensive approach to financial education as it is proposed here requires a research methodology that is able to capture the diversity of individual understandings of complex socio-economic issues. One such methodology, which has proven useful in other fields of investigation, is phenomenography. Phenomenographers consider conceptions as holistic entities, the so-called outcome spaces, which can be reconstructed and described by systematic variations of hierarchically arranged structural characteristics. In contrast to more standardized procedures such as multiple-choice items, this approach is expected to have the potential for delivering rich and individualized information on young people’s mental landscapes with regard to financial and economic crises phenomena. The key assumptions of the phenomenographic research methodology are described next.

2.2 Phenomenography

Phenomenography is an empirically based interpretative research methodology originally developed in the 1970s at the University of Goteborg by Ference Marton and his research group. Since then, it has spread throughout the

broader Nordic context (Paakkari et al. 2011) as well as the United Kingdom (e.g. Entwistle 1997), Australia (e.g. Herbert, Pierce 2013), and Hong Kong (e.g. Pang, Marton 2005). According to Marton and Pang (2008, p. 536), the “object of research of phenomenography is the qualitatively different ways in which people are aware of the world, and the ways in which they experience various phenomena and situations around them.” In other words, phenomenography is concerned with reconstructing how things appear to and are understood by people. However, this does not mean that everyone understands the phenomenon in his or her unique way. Rather, a qualitatively different, but limited, set of ways of understanding can be derived based on an internal logic (Booth 1997). When combined, these variations portray the phenomenon as a whole, and this specific combination is termed an “outcome space” (e.g. Marton, Booth 1997). Outcome spaces are hierarchically structured as a set of related categories of description of the specific phenomenon. These categories denote distinctively different ways of seeing the phenomenon and, thus, describe the variation in the possible ways of experiencing it. They are ordered according to their logical complexity and inclusiveness, which in turn is established by so-called dimensions or structural characteristics of variation, which highlight the changes in awareness of the critical features of the phenomenon under investigation. “More sophisticated conceptions are differentiated from less sophisticated conceptions by the awareness of different or additional values of a dimension or the discernment of more dimensions” (Herbert, Pierce 2013 p. 2). Thus, it can be said that the intended outcome of phenomenographic research consists of a hypothetical outcome space, developed from researchers’ exploration of the data typically collected through a series of open-ended or semi-structured interviews from a sample group. The procedures used to analyse these data are inductive and qualitative in nature, and they involve an iterative processing, preferably through the complete responses of the participants. During these cycles, phenomenographic researchers shift their attention from the individual to the meanings expressed by the group as a whole—or as Barnacle (2005, p. 50) states, “categories of description are not intended to necessarily correspond to the perception of any particular individual. Rather, they are compositions formed out of an aggregate of similar perceptions.” According to this view, transcriptions thus represent “various accounts of phenomenal experience [...], rather than [manifestations of] the singularity of individual experience. As a consequence, any one transcript could contribute to a number of the categories that [are] formulated” (Barnacle 2005, p. 50).

With regard to its field of application, phenomenography originally grew out of investigations into students’ experiences of learning, which focused on finding out how university students approach their ordinary studies. Starting from this origin, the use of phenomenography has subsequently expanded to a



broad range of phenomena and contexts within and outside education (for a detailed schedule of existing research cf. Marton, Pang 2008). Previous phenomenographic research in the domain of economics and financial education has concentrated in particular on students' conceptions of how prices of goods are determined (e.g. Pang, Marton 2005). This line of reasoning has been expanded to students' understanding of wages (Birke, Seeber, forthcoming) and private credits (Speer, Seeber 2013). In addition, the phenomenographic methodology has recently also been applied to investigate conceptions of macroeconomic and/or political economic phenomena, notably by Davies and Lundholm (2012), who investigated conceptions of public goods, as well as by Davies, Syed, and Appleyard (2013), who addressed secondary school students' understanding of the financial system. As these studies witness, phenomenography seems to be particularly useful to depict the idiosyncrasies of young people's conceptions of complex issues, including their inconsistencies, as well as to understand how these conceptions are embedded in youngsters' emotional and attitudinal realities. As already mentioned in the introduction, it was thus decided to apply the phenomenographic methodology within the scope of an interview study to further investigate young Germans' informal conceptions of financial and economic crises phenomena. The study, which was conducted at the University of Mannheim (Germany), is a primer within a larger international research program aimed at modelling, assessing, and promoting conceptual understanding and conceptual change in economics. Besides Germany, different tertiary institutions from Switzerland and Italy are currently involved in this program. The research questions, participants, and methods, as well as selected results³ of the study, are presented in the following section.

3 Empirical evidence on young Germans' informal conceptions of financial and economic crises phenomena

3.1 Interview study on variations of secondary school students' conceptions of the 2008 financial and economic crisis

Research questions, participants, and methods

Based on the above-mentioned considerations, the study was, among others, guided by the following research questions: (a) What variations in the outcome space of adolescents' informal conceptions of the financial and economic crisis can be identified? and (b) Which structural characteristics describe them?

The study involved 56 students, 14 to 19 years old ($M = 15.98$ years), from public secondary schools in Baden-Wuerttemberg (Germany). Females accounted for 58% of the sample. Nearly half of the students went to a middle school (Realschule). The other half went to an economics- and business-oriented vocational college (Berufsfachschule). Students in both schools were considered to be "average" students—that is, not particularly low or high achieving. According to the

official curricula in the two school types, they are moreover expected to have some basic knowledge with regard to economic issues (e.g., economic and monetary system as well as economic policy). However, since these issues are often taught together with other contents from social science, it is quite hard to estimate how well economics is really present in the classroom. As confirmed by the teachers, all participating students came from a comparable lower-middle class socio-economic background. A further commonality was the fact that both groups of students were about to decide their professional futures—that is, either finding a job or an apprentice position, or deciding to continue with school-based education, if their grade point averages allowed this option. The sample was determined based on the availability of the teachers to participate in the study and thus has to be considered as a convenience sample with possible biases. The study was approved by the Ministry of Education and Cultural Affairs, the school authorities, and the parents' council.

To gather data, semi-structured individual interviews were used. This methodological decision was based on the following considerations: On one hand, the data collection method should leave enough space for students to express their spontaneous and genuine personal ideas, especially at this early stage of research. An over-structuration of the data-collection instrument should thus be avoided, and possibilities for one-to-one dialogue and clarifications should be provided. For these reasons, written essays or focus groups were excluded. On the other hand, it was also important to prevent overly excessive demands. In this regard, it was assumed that a completely open-ended approach might have required content-related and articulation abilities that probably go beyond the scope of ordinary secondary school students.

The interviews were conducted in spring 2009, during a period when the Subprime crisis was very prominent in Germany's political discussion and media. After being briefly informed about the research goals and providing their consent to participate in the study, students were asked to describe what comes to their mind when thinking about the economic and financial crisis. In order to trigger their reasoning, questions like "What do you know about the onset and origin, the causes, the progression, and the impact of the financial and economic crisis? What can the German government do to deal with the crisis?" were used. In addition, students were also asked whether they feel personally involved in the crisis and if they think that the crisis has or will have consequences for their life.

The interviews lasted on average 18 minutes and were conducted during regular class hours in a separate classroom. The assignment of individual students to the interview appointments was done in collaboration with the teachers.

In order to identify variations in the outcome space of students' conceptions of the financial and economic crises as well as the respective structural characteristics



that constitute them, the following steps were executed in accordance with pertinent recommendations from the phenomenographic literature (e.g. Åkerlind 2005): (1) repeated reading of the complete transcripts; (2) tentative extraction of central differences in students' utterances; (3) identification of structural characteristics; and (4) drafting and refinement of a distinct set of categories of description. The results of these moves (i.e., the categorical descriptions and the structural characteristics that together form the outcome space of students' conceptions of the financial and economic crisis) were validated by two other researchers who were not involved in conducting the study. After saturation in data analysis and interpretation was achieved, each participating student was assigned to one of the emerging categories according to the main emphasis of his or her argumentation, and frequencies of designation were calculated. In addition to these steps, an in-depth qualitative analysis of the interview transcripts within the evolving conceptions of the phenomenographic analysis was accomplished to detect prevailing difficulties in students' representations of the financial and economic crisis. This final analysis was intended to provide some comparability with the prior studies mentioned in the introduction of this article.

Selected results

As depicted in Table 1, four different conceptions could be reconstructed, varying with respect to whether students' awareness of three different facets of the crisis is given or not. These facets are (1) awareness of the existence of the crisis, (2) awareness of the development and the causes of the crisis, and (3) awareness of personal consequences of the crisis.

1) *Denial of the crisis.* The first conception, which was attributed to four students from the sample, is characterized by a lack of awareness of all three facets. In this conception, the crisis is viewed as something that employers or politicians have invented in order to assert their own interests and to fleece employees and voters. This position is evident in the following excerpts:

Excerpt 5. "It is not possible that companies are really doing so badly. They simply force people to work short-time in order to save money."

Excerpt 11. "Politicians fuel our fears. They want us to believe that they are the heroes. Once we do believe them, we will vote for them. Then they will do whatever they want."

Because in this conception the crisis appears as something that is constructed but not yet existent, it is termed "denial of the crisis". The lack of awareness of the existence of the crisis is accompanied by a lack of any clear idea about its causes and/or its progression. The students in this group were even hardly able to indicate when and where the crisis began, let alone to explain its dynamics or the intended effects of governmental efforts

to overcome the crisis. When asked about any personal consequences, they reacted with indifference ("I don't care at all", "The crisis leaves me cold"). In effect, interviews with these students were rather short, also because they resisted the interviewers' effort to involve them in any kind of closer explanation.

Table 1: Variations of secondary school students' informal conceptions

	"Denial"	"Magical thinking"	"Optimism"	"Realism"
Awareness of the existence of the crisis	---	√	√	√
Awareness of the development and causes of the crisis	---	---	√	√
Awareness of personal consequences	---	---	---	√

Legend:
--- = Awareness not demonstrated;
√ = Awareness demonstrated

2) *Magical thinking.* In the second conception, which was held by 27 students, the crisis was realized in terms of its more immediate manifestation; that is, they stated an increased unemployment rate or noticed that people have lost their bank deposits. However, this group of students also lacked awareness of the root causes and progression of the crisis. When prompted to provide reasons for their observations, they apparently tried to respond, but were not able to construct a coherent explanation. As the in-depth analysis of their responses moreover revealed, students in this group had difficulties to argue how the crisis spilled over from the real estate bubble to the banks and then to the real economy. This weakness was also mirrored in their answers to the question of how the crisis came to Germany. Typical answers were that the German state or the German banks wanted to help the American citizens or their American colleagues, respectively. Moreover, students had quite a restricted view of governmental actions. If able to answer at all, they were only able to state, not explain, those measures that at that time gained much attention in the media (e.g., public spending on infrastructure or the car scrap bonus, which was intended to stabilize the domestic car market). As with the causes, measures that tackle the problem at a system level (e.g., measures to stabilize the banking system or introduce a tax on financial transactions) were far beyond students' conceptual horizon. Finally, these students also refused acknowledgement of any long-term consequences that the crisis may have in general and for their personal lives. Typical examples of this type of argumentation are as follows.



Excerpt 13. “I don’t think that the crisis will influence my life because I am sure we are out of the woods in about a month.”

Excerpt 50. “There are less job offers but I am sure this will be fixed quite soon. In any case, I think that this does not influence the opportunity to find an apprenticeship position. It can’t get worse anyway.”

In a kind of “magical thinking,” they argued that things will turn out positively in the end, without having a clear idea of how this could be the case.

3) *Optimism.* 17 students were not only aware of the existence of the crisis but could also give acceptable explanations about its development and causes. Thus, their answers were more elaborated and lasted longer. However, even though these students acknowledged potential detrimental effects of the crisis, they believed that this would have no serious consequences for themselves due to their outstanding personal resources (e.g., qualifications, self-esteem, or contacts to powerful groups), as witnessed by the following quotations:

Excerpt 9. “I think it will not be easy to find an apprenticeship position. However, you will do it if you believe in yourself. You need to strongly believe in yourself.”

Excerpt 15. “I know that life will be harder for my generation, but my parents have a lot of contacts with the world of work. I think this will help me finding a job.”

This conception is thus characterized by an excessive optimism and by a marked inclination to respond to the crisis with an elevation of individual efforts, whereas factors that are beyond the scope of one’s personal influence were not considered. Students who hold this conception seem to have perfectly internalized the credo of the achievement-oriented society according to which every man (and woman) is the architect of his (her) own destiny.

4) *Realism.* In contrast, the remaining eight students showed more realistic appraisals; that is, they were aware that the crisis could have systemic effects that elude individual effort. One student, for example, mentioned that the crisis would endanger the pension system. Another student argued that the crisis could have detrimental effects on young generation’s possibilities to acquire property ownership. Based on these considerations, students in this group were aware that the crisis and its effects may raise questions concerning the prevailing value system. Examples of this kind of discourse are given below.

Excerpt 17. “I hope that I can maintain the life standard of my parents. I am not sure. However,

maybe the crisis urges us to reconsider what we really deem as important.”

Excerpt 25. “The crisis does not concern everybody to the same extent. It will probably diminish our opportunities in life. It will be harder to get a job application even though you might be smart. I think this is not fair.”

Even though these students fortunately did not seem to fall into a deep depression, they were aware of potential pitfalls beyond their personal effort. In this sense, their conceptions were more realistic than those of their more optimistic peers.

3 Additional empirical studies on young Germans’ conceptions of financial and economic crises phenomena

Since the 2008 turmoil, adolescents’ and young adults’ conceptions of financial and economic crises phenomena have been also the subject of several surveys in the German context. In this regard, a specific interest is directed towards their values and attitudes. Respective findings are, for example, provided by two surveys led by the research group around Klaus Hurrelmann, a renowned scholar in youth research (cf. Hurrelmann, Karch 2010, 2013). These studies were commissioned by MetallRente, which is an organisation that was founded by the two social partners Gesamtmetall and IG Metall to provide companies and employees with coverage solutions for financial security in old age and vocational disability. The studies were conducted in 2009 and 2012, respectively. Each study covered a representative sample of 2,500 adolescents and young adults in the age group from 17 to 27 years, and both of them used computer-assisted telephone interviews (CATI) with primarily Likert-scaled rating questions. Although the studies are mainly focused on retirement planning and provision, they also touch on some questions related to young Germans’ perceptions of financial and economic crises phenomena. In this respect, participants were, for example, asked to estimate future prospects for the next 10 to 15 years, both for their personal life as well as for Germany in general, and to determine their self-perceptions regarding their ability to cope with possible upcoming challenges. Moreover, young people’s opinion towards the 2008 economic and financial crisis—and in the 2012 survey also towards the Eurozone crisis—were taken into account.

In general, both studies confirm that German adolescents and young adults are predominately optimistic with regard to their personal future. This conviction, which seems to be independent from demographic or social variables, has even increased between the two inquiries (Gensicke 2013, p. 38).⁴ The data also reflect a stable tendency towards a pronounced willingness of achievement-orientation and self-optimization as preferred strategies to cope with the present requirements (Gensicke 2013, p. 52). However, these predominantly positive ratings of personal chances and



opportunities were not consistently mirrored by young people's expectations regarding the future prospects of Germany in general. In the 2009 survey, more than half of the participants expressed a view that combined optimism with regard to the first aspect with a rather grim picture concerning the second. This orientation, which the authors of the studies term as "pragmatic optimism", remains stable in the 2012 data. As Gensicke (2013, p. 42) further explains, pragmatism here means that the young generation tends to adopt a point of view that primarily refers to manageability and feasibility, whereas things that appear to be wicked and unsolvable—and are thus beyond one's immediate scope of action—are preferably disregarded. This position is accompanied by a retreat to values that are very much focused on the private sphere (e.g., enjoyment of life, family foundation). In contrast, values concerned with traditional political and civic engagement (e.g., activity in associations or political parties) are less of an issue for young Germans. According to the authors, the totality of these attitudes is an expression of a considerable uncertainty, caused by a perceived lack of transparency with regard to the prevailing dynamics and mechanisms, and in consequence demonstrates a cognitive overload on the part of the young people—an interpretation that is also sustained by participants' answers to the questions directly related to the financial and crises phenomena. Especially when it comes to questions that require a knowledge-based (rationale) rather than a value-driven judgement (e.g., the question of whether the German economy can compensate for the loss of European demand in other markets), a tendency towards vague answers seems to appear.

The aspect of young Germans' perspectives on their own lives in face of the financial and economic crisis was also picked up and deepened by Gaiser, Gille, and de Rijke (2011), who report findings from the youth survey AID:A ("Aufwachsen in Deutschland: Alltagswelten" [Growing Up in Germany: Everyday Worlds]). This survey was conducted by the German Youth Institute (Deutsches Jugendinstitut, DJI) in 2009 and included a sample of 7,900 persons from 18 to 32 years of age. The findings of this study largely confirm the results that were obtained by the previously mentioned surveys as they also reveal a high and growing degree of perceived uncertainty among young Germans, which according to the authors not only stems from current financial and economic crises phenomena but is also based on diverse and long-standing factors such as the erosion of societal ties and socio-economic milieus, the decline of the welfare state, or the risk of unemployment. The growing feeling of uncertainty, however, is paralleled by perceptions of quite high estimation of personal distribution justice (i.e., perception of their own position in the current structure of wealth distribution). According to Gaiser, Gille, and de Rijke (2011, p. 43f), one possible interpretation for this surprising coincidence might be that beyond structurally increasing generational differences, today's youth in their understanding of a just

distribution of social prosperity compare themselves not with previous youth generations but base their standards on current conditions. This shift concerning the point of reference once again might be considered as a manifestation of pragmatism in the sense described above.

Empirical evidence regarding young Germans' values and attitudes in relation to financial and economic crises phenomena is finally provided by a recent survey which was commissioned by the German Banking Association (Bankenverband 2012). This survey, which was first conducted as CATI in spring 2009 and then repeated in spring 2012, enclosed a representative sample of 758 subjects between 14 and 24 years. Besides covering banking related issues such as young people's spending and saving behaviour or their use of financial products, it also addressed questions regarding their future outlooks as well as questions concerning their awareness of the existence and the potential consequences of financial and economic crisis phenomena as well as their motivation and interest to engage themselves with economic issues, including the financial and economic crisis. The results of this survey again confirm young Germans generally optimistic attitude and their distinct performance orientation. Moreover, even though most of the participants have heard about the financial and economic crisis—and in the 2012 survey about the Eurozone crisis, respectively—again, only 9% stated that the financial and economic crisis will have a substantial influence on their personal lives. With regard to the Eurozone crisis, this ratio was somewhat higher (13%) but—compared to the potential objective effects—still rather low. Last not least, the data from this survey evidence a declining interest in economic and financial issues and an increasing insecurity of being able to grasp the complexities of these issues among young Germans.

4 Discussion and conclusions

Based on a comprehensive approach to financial education and a phenomenographic methodology, this article presented research activities that were concerned with investigating young Germans' informal conceptions of financial and economic crises phenomena. More specifically, an interview study was described that explored how secondary school students perceived and experienced the 2008 financial and economic crisis. In order to expand the empirical evidence base, additional findings from surveys on young Germans' values and attitudes towards financial and economic crises phenomena were reported. In reference to the aims of the research (i.e., further validating of results from prior research, exploring differential aspects of young people's informal conceptions of financial and economic crises phenomena, and investigating how these conceptions are embedded within their emotional and attitudinal realities) as well as its motivation (advancing scientific knowledge of how young people perceive and experience the socio-economic reality that surrounds them, and providing a foundation for the design of



curricula and instruction), the presented results can be interpreted as follows:

The findings from the interview study confirm prior research (Klee, Lutter 2010; Schuhen 2010), which indicates that financial and economic crises phenomena are scarcely understood and that there seems to be a fairly big divide between young people's understanding of these phenomena and relevant scientific accounts. Especially the findings from the in-depth analysis of common errors, difficulties, and misconceptions reveal that students tend to be rather one-sided in their argumentation and inclined to use their everyday experience when trying to fill potential gaps in their understanding of the issue at hand. This result, *inter alia*, illustrates the need to carefully consider the question of how to guide students in transcending from an argumentation based on individual agency and motivation towards thinking in systems and structures. As argued elsewhere (Aprea 2014), a strategy that graduates from more personally oriented practices (e.g., private credits) to more systemic phenomena (e.g., the functioning of financial markets), combined with efforts to make evident the relevant shifts in argumentation, might be a promising idea in this respect

However, the findings from the interview study not only substantiate results from prior investigations but also go beyond the available evidence in that they provide advanced insights into the diversity of students' conceptions. This diversity, in turn, needs to be addressed by differentiation of instructional strategies. Whereas informative instruction, for instance, on financial and economic crises phenomena might prove to be useful for building or deepening the understanding of students who are already aware of the crisis and acknowledge its consequences, it is quite likely that this approach loses its effectiveness with students who ignore its existence or do not consider it as relevant. These latter students might first be supported to overcome their distance in awareness before being able to adequately grasp the incoming instructional information. Moreover, students with a somewhat over-optimistic attitude may profit from instruction that underlines the long-term effects of the crisis.

Furthermore, the results from the interview study as well as those from the surveys indicate that the connection between one's individual situation and the larger collective context seems to be anything but clear and evident in young Germans' mental frameworks, a result which might be attributable to the perceived complexity of the contents related to financial and economic crises phenomena. Young people might thus feel overwhelmed and lose interest in this topic. This observation, in turn, substantiates not only the need for a comprehensive approach to financial and economic education as described in section 2.1, but also calls for remedies that help to make financial and economic issues more appealing and relevant to young people. In this regard, the benefits of boundary objects such as literature, music, and arts should be exploited when

designing respective learning environments (e.g. Lucey, Laney 2012).

Finally, the available data evidence that a predominantly optimistic stance as well as a proactive attitude prevails among the young generation in Germany. On one hand, this mind-set must be definitely conceived as beneficial because it helps to protect young people from irritation and paralysis. On the other hand, their positive prospects seem not to be sustained by an awareness—let alone an understanding—of the complex relationships that characterize financial and economic crises phenomena. Combined with this ingenuousness, young people's "pragmatic optimism" not only involves the danger of overlooking political demands for action, but also bears the risk of imposing a constant pressure of self-optimisation. Especially in times of precarity and transience, relying only on one's own responsibilities and fading out structural aspects might lead to frustration and burnout, and thus probably inhibits the development of psychologically more functional resilience strategies. Both of these blind spots—i.e., overlooking of political exigencies and overreliance on individual resources—need to be addressed and made salient by educational efforts.

In sum, it can be concluded that the conceptual and empirical considerations presented in this contribution provide useful information for amplifying the available knowledge base on adolescents' informal understanding of complex socio-economic phenomena. Furthermore, initial suggestions can be derived of how this understanding might be supported by the design of formal curricula and instruction. However, given the early stage of the research on students' conceptions of financial and economic crisis phenomena, caution in interpreting these findings is of course advisable, and additional research is certainly needed to further warrant these claims. With regard to future studies, the following methodological aspects should be considered in particular:

- As already mentioned, one limitation of the interview study concerns the sampling. Thus, first and foremost, a more systematically constructed and possibly also more heterogeneous and larger sample is to be considered. This should also help to further explore the question whether and in which direction the identified four categories of the outcome space need to be changed and/or supplemented, respectively.

- Moreover, matters of validity and reliability of data collection methods need to be addressed. This could be done by posing the interview questions in different ways in order to get longer and possibly more elaborated responses (e.g. Lundholm, Davies 2013; Davies et al., 2013) and/or by combining the interviews with other types of data-collection instruments, such as problem-solving tasks (e.g. Hmelo-Silver, Green Pfeiffer 2004). In addition, the application of mixed-method



designs within the scope of single studies should be considered (e.g. Aprea, Sappa, in press).

- Likewise, the impact of different socio-economic backgrounds as well as cultural influences on students' conceptions of financial and economic crisis phenomena need to be considered. This latter aspect will be a specific focus of the larger research program mentioned above.

Besides these methodological considerations, future research should address two important questions. First, it should further investigate how different conceptions of financial and economic crises phenomena influence subsequent learning, and second, it should explore how conceptual change with regard to this topic can be supported. In planning and conducting this kind of research, it should, however, be clear, that financial education can be nothing but *one* remedy to effectively cope with the detrimental effects of financial and economic crises phenomena, which of course needs to be accompanied by respective measures on the institutional and governmental layer.

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Endnotes

¹ Informal conceptions are sometimes also referred to as "naïve understandings," "lay theories," or "subjective theories." However, in this article, the more neutral terms "informal conceptions" and "preconceptions" (or understanding and perceptions as synonyms for conceptions) are preferred because they avoid preliminary judgements and thus seem to be more in line with considerations from the learning

sciences (e.g., Smith, diSessa, & Roschelle, 1993). The expressions “mental framework” or “mentality” are also used interchangeably.

² Given space limitations, it is beyond the scope of this paper to provide an extensive review and critique of current approaches to economic and financial education as well as a systematic derivation of the comprehensive view. For a more detailed consideration of these aspects, see Aprea (2014).

³ For a comprehensive account of all results cf. Aprea (2013, under review).

⁴ Please note that the studies did not foresee a longitudinal design. Thus, participants were not the same persons in the 2009 and the 2012 interviews, respectively.

