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Contents:

Editorial:

Birgit Weber:

Editorial: Crises in Europe and Challenges for Economic Education.....2-10

Special Topic Articles: Crisis and Economic Education in Europe

Ewald Mittelstaedt, Roman Lutz, Claudia Wiepcke:

The Financial Crisis – An Ideal Teaching Moment.....11-22

Iraklis Pliakis, Christos Digkas, Despoina Bousiou-Makridou, Stavros Tsopoglou:

The Impact of Economic Crisis on the Perception and Knowledge Level of Students Regarding Economic and Financial Concepts.....23-30

Agnieszka Jeziorki, Alain Legardez, Doris Valente:

Taking into Account Knowledge Representations about the Crisis, Uncertainty and Risk in Teaching Economics: A Comparative Study of European Students in Economic Programmes.....31-41

Sandra Speer, Günther Seeber:

Financial Understanding: A Phenomenographic Access to Students' Concepts of Credits.....42-52

Jan Lofström, Marko van den Berg:

Making Sense of the Financial Crisis in Economic Education: An Analysis of the Upper Secondary School Social Studies Teaching in Finland in the 2010's.....53-68

Tadayoshi Asano, Michio Yamaoka, Shintaro Abe:

The Quality and Attitude of High School Teachers of Economics in Japan: An Explanation of Sample Data69-78

Review: The State of the Art in Economics Education Research

Celeste Varum, Abigail Ferreira, Ana Breda:

Economics Education Research: Theoretical Foundations and Empirical Research, Directions and Trends in the Past Decades.....79-86

Project:

Michael Weyland, Marco Rehm:

How Can Economics Education be Implemented Without a Separate Subject? A Case Study from Germany.....87-93

Birgit Weber

Editorial: Crises in Europe and Challenges for Economic Education

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Since 2009 the European Union is facing a severe economic crisis. Does the current crisis reflect the failure of the economic player or markets? Or does it even reflect the failure of an entire economic system inevitably culminating in speculative bubbles, increasing economic inequality, always accompanied by severe crises? Or is it more of a failure of the political institutions that relinquished its power by the liberalization of financial markets, cancelling the liability of financial institutions, becoming helpless repair institutions of financial capitalism? Or is the European crisis "only" an extension of the global financial crisis of 2008, which resulted in the rescue of individual states, brought them to stumble themselves? Or does it just bring the design flaws of the European Monetary System to light? There is no doubt about a tremendous complexity according to the current crises.

Also there is a lot of radical criticism not only as a topic to the left or alternative movements, but also to business leaders and economists themselves. "The capitalist system no longer fits into the world" resumed Klaus Schwab (2012), founder and Executive Chairman of the World Economic Forum 2012. Economists, business ethics and social scientists complain that the financial and euro crisis illustrate the failure of conventional economics with their unshakable faith in the self-healing forces of the markets (Colander et al. 2009, Me'M 2012). German and French economics students (e.g. Plural Network Economics) criticized in 2012, that the global financial crisis did not matter in their studies and claimed a more critical use of economic knowledge and also more plurality. George Akerlof and Robert Shiller (2009) criticized the failure of modern economics ignoring the animal spirits. In Interviews Dennis Snower (2012), President of the Kiel Institute for the World Economy, reflects, that the economy is standing at the begin of a revolution and Thomas Straubhaar (2012), Director of the Hamburg Institute of International Economics calls for an end to the imperialism of economists.

At such dynamically changing times, where economy is affected by multiple crises and in which also the discipline of economics critically reflects their limitations, it does not belong to the easiest tasks of economic education to provide with orientation, judgment, decision-making and action according to economic situations, problems and phenomena. On the one hand, the crises generates quite considerable interest by their ubiquity, particularly focusing on the other hand only on fragments and dominant controversies of the respective current situations. On the one hand, the understanding of relationships and developments is complex and on the other hand, considerable uncertainty and controversy of experts create the impression of arbitrariness. As the Crises reveal a lot of interdependencies, also rigorous analytical separations between economic and political dimensions are hardly possible. While a purely political view or a focus obscures the social consequences also for existing economic laws, a sole focus on the challenges of economic laws suppresses cultural differences, economic historical developments, lack of development of institutions as well as individual and social affection.

Three years ago the Journal of Social Science Education focus 'Civic and Economic Education and the Current Financial Crisis' (see: Hedtke JSSE 1-2010, Hippe JSSE 2-2010). Most of the articles in 2010 reflect the financial crisis not only as an economic crisis, but look also at moral, social and political intertwining as well. This current issue of the Journal of Social Science Education was initiated mainly by the conference of the Association of Economics Education in Europe with the subject 'Economic Crisis - Catastrophe or Opportunity?' in 2012 in Germany, when mostly experts of economic education focus on the on-going crises. At the conference 21 lectures and workshops dealt with economic crisis and financial education as well as with developing, measuring and diagnosing economic, business and entrepreneurial competences. Before we editors present an insight into some of the contributions of the conference, which was also offered to the journal, and passed the anonymous review process, respectively showed good practice in school, we would like to introduce into the controversial perspectives and solutions upon the economic situation in Europe. This overview should widen up the controversially debated spectrum of problems, causes and measures, but is not intended to deliver final judgements. After that we will give a small overview about surveys presenting the perspectives of the youth as well as an impression of different perspectives of European Students explored by an AEEE online survey in 2012.



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US-Subprime mortgages caused European crises?

For many observers, the European crisis had its origins in the United States. The attempt of the US Government to encourage private home ownership to socially disadvantaged people led to the granting of mortgage loans at low interest rates to borrowers with lower credit ratings (subprime loans). To relieve themselves from their "bad" debts, the financial institutions had constructed new financial products (mortgage-backed securities and collateralized mortgage obligations). These uncontrolled financial innovations are one of the central causes of the financial crisis from 2008. As the artificially inflated housing bubble burst and the home prices declined, borrowers were no longer able to pay off their debts; also for the lender it was tight. With the collapse of the investment bank Lehman Brothers in 2008, the confidence between the banks was increasingly shaken. They were subsequently less willing to lend and thus a recession resulted. To mitigate a run on banks as well as the impact on production, the States brought up considerable resources to rescue the banks and to stabilize economy. Thereby the already high debt increased. In autumn 2009, when Greece in view of oppressive debt asked for financial assistance, the crisis hit Europe seriously. But not only Greece, other European countries were also not able to pay their rising government debts. As the ratings became worse, their solvency deteriorated further. At the same time, also U.S.A and Japan had to contend with significant debt. The difficult economic situation in Europe was accompanied by considerable political tension: stepping down of government in almost half of the countries, early elections, changes of government and significant social protests.

Both causes and measures are the subject of national and international debate. Meanwhile, the European crisis is characterized as the three vicious spirals (Eichengreen 2012), multi-crisis (SVR 2012) or "The euro's Three Crises" (Shambough 2012):

„The euro area faces three interlocking crises that together challenge the viability of the currency union. There is a banking crisis – where banks are undercapitalized and have faced liquidity problems. There is a sovereign debt crisis – where a number of countries have faced rising bond yields and challenges funding themselves. Lastly, there is a growth crisis – with both a low overall level of growth in the euro area and an unequal distribution across countries. Crucially, these crises connect to one another. Bailouts of banks have contributed to the sovereign debt problems, but banks are also at risk due to their holdings of sovereign bonds that may face default. Weak growth contributes to the potential insolvency of the sovereigns, but also, the austerity inspired by the debt crisis is constraining growth. Finally, a weakened banking sector holds back growth while a weak economy undermines the banks.” (Shambough 2012).

The discussion about causes and measures are highly controversial, the following overview is intended to facilitate the orientation.

Sovereign debt crisis

If the crisis is characterized as a sovereign debt crisis, spendthrift states are not able to pay their debts. Accordingly, expenses need to be decreased and growth to be increased to enhance revenues to pay the debt service. Changes in the European Stability and Growth Pact and the debt brake in the EU fiscal pact with strict caps were influenced by these goals. But the strict budgetary discipline with privatization and austerity could counteract growth by leading to recession and political tension. The doubts about austerity received new impetus, as errors in the study by Reinhart and Rogoff (2010) were discovered, so that politicians could not rely any more to a scientifically proved exact limit for negative growth effects by a special rate of debt. Furthermore Neo-Keynesians (e.g. Blanchard / Leigh 2013) offer results showing the underestimation of negative growth effects by government cutbacks. In order to increase tax revenue, also tax evasions must be combated, which needs confidence of tax payers in the performance of their political institutions. Current public debt could also be reduced by a haircut of debt, which could take frivolous creditors in liability and would work as an incentive against frivolous lending. Hans-Werner Sinn (2010, 2013) warns before moral hazard, calling for an appropriate liability for borrowers and lenders. He is concerned that those reckless borrowers may proceed as before. Against this, for the German economist Peter Bofinger (2012) such debt cuts raise rates by decreasing confidence. The moral hazard concern is also associated with measures to reduce debt by jointly guaranteed euro bonds. To avoid acute threat of insolvency or liquidity problems, emergency loans and guarantees like a euro bailout or a European Stability Mechanism, were designed with conditions to reduce debt causes. There is still doubt, if these measures oppose against the bailout-clause, which prohibits mutual liability. The situation is similar to the highly controversial loans and the purchase of government bonds by the ECB, respectively the loans from the strong to the weak countries' National banks. Against the moral hazard argument the Belgian Economist and LSE Professor in European Political Economy Paul de Grauwe (2011) retorts, that the ECB has no alternative being the lender of last resort, because the "self-fulfilling nature of expectations creates a coordination failure" (p. 3) and has to "impose limits on risk taking by banks" (p. 9). Looking at the crisis only as a sovereign debt crisis leads to radical measures to cut the debt service, but will create problematic side-effects. Also the problem is focused only on the states living above their means, but did not look at the initiating causes of the debt or coordination failures.

Bank crisis

If the crisis is seen as a bank respectively financial crisis, the sovereign debt is not the final

cause, it is born by the rescue of banks by the states. The criticism directs to the non-performing loans at risk of default and the insufficient capital base of the banks, so that there are considerable risks of infection to any shocks. Also, closely locked to the banks, the financial markets are criticized for being too optimistic at the beginning of the Eurozone and later too pessimistic, so the financial market system should also bear the blame for the crisis by following animal spirits (Akerlof/Shiller 2009). According to such an explanation the problem is not to save countries, who act uneconomically, but to protect them against the panic attacks of the markets. This argument forces directly to a common liability currency area. Appropriate measures are aimed at a European financial supervision, with sufficient information, intervention, restructuring rights and instruments, that sets boundaries to systemically important banks ("too big to fail") and prevent socializing risks and spreading macroeconomic problems by coordinated collective acts, according to the German Council of Economic Experts (SVR 2012: 6). While politicians want to avoid runs on banks with a European deposit guarantee, economists consider this to be an insurance policy after the damaging event creating a significant disincentive for moral hazard by a transfer mechanism, instead, a European coordinated solutions for restructuring national banks should be installed (SVR 2012: 27f). The argument of a bank crisis is strongly intertwined with the development of the Euro and the currency union.

Euro crisis

If the crisis is interpreted as a euro crisis, the cause is seen on the one side in the ability of the deficit countries to borrow more than their national situation would allow without the Euro, on the other hand their current competitiveness do not match with the external value of the Euro, but being a member of the currency union they have no chance to protect themselves through the exchange rate mechanism. If there are countries that do not fit in the Currency Union the way out is to be seen in a Euro-Exit or in a split up currency Union. This could limit the liability of the European Union and reduce future inflation risk. Such a position seems to be independent of the political spectrum, but it depends on different prognoses: While some do not want to joint liability (Sinn/Sell 2012, Sinn 2013), others fear a threat to democracy facing the consequences of the high adjustment costs in the countries concerned (Flassbeck 2013, Streeck 2013) and finally, if the agenda of problems seem to be tremendous, there are also warnings like Nouriel Roubini (2012): "So, if a breaking is unavoidable, delaying it implies much higher costs". If a euro collapse or exclusion of states would happen, the affected states would be confronted with capital flight and a run on banks. This would also bring painful consequences, economic slumps and deflation with it. Also domino effects are foreseen as well as global recession. Splitting up or exclusions would also work like a haircut of debt, where economically stronger

losses of claims and growth (SVR 2012: 8f). Instead splitting the European Union or give chance to exit, especially advocates of European integration call for completion from the currency union to the political union. But at least a minimum of institutions to overcome the crisis and as a solid base for the future the Euro seem to be needed, according to the experts of the INET Council on the Euro Crisis (INET 2012).

System crisis

Finally, the crisis is also interpreted as a crisis of the system (eg EuroMemo 2012, Streeck 2013, Flassbeck 2013). This perspective results from macroeconomic imbalances between northern and southern countries on the one side and substantial wealth inequality on the other side. Some criticism, e.g. Johnson 2009, even goes so far as accusing politicians and the financial oligarchy of a "silent coup". Accordingly, the measures focus on redistribution of ownership to the labour income, thus an increase in aggregate demand is hoped that affect real economic investment, which removes excess liquidity in financial markets. From such a perspective, austerity with wages and welfare cuts, reduction of workers' rights and the privatization of debt settlement are counterproductive and serve to increase the investment income. The EuroMemorandum Group (2012) calls for solidarity instead of austerity as well as for a democratic, social and ecological Europe, not least through redistribution of wealth. The surplus countries should reduce their trade surpluses through wage increases and the increase of aggregate demand, so that the imbalances in Europe are reduced. Especially households with high wealth and income should be used for property taxes and forced loans, while stricter rules for financial markets improve their socially useful function. However, associated with such redistribution measures, the concern is to set disincentives for performance, and to end up casual tax evasion.

Complexity of the crises

Shambough (2012: 34) resumes: "*Thus, many of the main policies pursued thus far aid with symptoms of one crisis, but often only temporarily or at the expense of another crisis. Austerity can cut deficits, but at the expense of growth. Locally funded bank bailouts can aid bank solvency, but at the expense of sovereign solvency. Increased bank capital requirements can calm bank solvency fears, but at the expense of lending and growth. EFSF bailouts have staved off disorderly defaults, but have done little to solve the fundamental issues. Finally, the LTRO can aid bank liquidity problems, but if used to buy sovereign debt (and help sovereign liquidity) the cost is further strengthening the bank sovereign connection. Structural growth policies are likely part of a medium run solution, but it seems overly optimistic to expect them to provide near term help.*" As the crises are mutually dependent, Eichengreen

(2012) speaks about the three "vicious spirals", he sees between public debt and the banks, fiscal consolidation and growth, unemployment and political reactions. Also the German Council of economic experts argues that mutually reinforcing multiple crises caused a severe systemic crisis of confidence (SVR 2012, 11). While some want to restore the confidence of the markets through consistent savings and the avoidance of moral hazard through debt extension, others criticize, that this policy of austerity raises social imbalance, conjures up political crises and lastly seems to be a threat for democracy. This debate, creating different solutions also between Anglo-America and Europe also depends on completely different economic structures and cultures (eg. Uwe Jean Heuser 2012). So in the Anglo-American countries the financial sector plays a greater role, whereas in Germany medium-sized business structure dominates. In the Anglo-American regions also the rather young population seems to be more risky, whereas Germany faces a more risk-prone, aging population.

Currently, the European south faces growing poverty and rising unemployment, as dramatic consequences of the crisis accompanied by growing protests especially from a youth without a future. During the end of 2012 almost one in four young people was unemployed in Europe, in Spain and Greece it was even more than a half (Hutengs / Stadtmann 2012, 2013). Thus, Wolfgang Franz (2012), chairman of the German Council of Economic Experts (SVR) with a focus on the labour market sees in this youth unemployment the most serious problem, because the 'youth unemployment would be no wound healing quickly, it remains as an ugly scar for the entire life with lower chances for jobs and incomes'. According to statistical studies, the need to differ between 15-19 and 20-24 year old youth as well as a comparison between the unemployment of the 20-24 year old with overall unemployment and percentage of total unemployment, to Mikkel Barslund and Daniel Gros (2013) the problem is overestimated. Instead of enhancing additional funding to subsidize no sustainable work the EU should encourage labour mobility. The existence of youth unemployment is disputed as well as the measures. What can the EU, what can the countries themselves do? Should the labour market be more flexible to release entrepreneurial forces and restrictions on employment? Should mobility be promoted, even if it exacerbates European imbalances? Should the austerity policy in favour of growth, operate more hesitantly?

Presence of the crisis in the European minds

To economic education especially the perspectives of the Youth are of a special interest. It is not astonishing that they present different answers - due to the focus of different causes and instruments in the interviews.

· Thus, the *German Association for Consumer Research* (GfK 2012) interviewed 758 Germans aged 14-24 with a representative opinion survey

commissioned by the Banking Association. Here, the multi-dimensionality of the crisis is unnoticed asking directly about the "sovereign debt and euro crisis" ... "triggered by the high debt of some European countries" Given the 94% of young people are affirmative showing their strong presence, with approximately half of indicating to talk about it often, but only 15% seem to be concerned by themselves. Although a large proportion of young people are likely to have experienced the old currency barely conscious, more than half can imagine a future without the euro, while only about two-fifths vote for the rescue of states that are in distress due to high debt.

· In June 2012 *Infratest dimap* asked 1000 Germans older than 17 years about the Crisis. 50% feel the Euro being disadvantageous. 85% expect, that the worst of the crisis is yet to come, while 71% want to be asked before competences are transferred to the European level, 55% support national budgetary policies and only 39% agree for a shift, 45% do not want common liability for the debt, 44% decide for clear rules on joint liability and for only 10 % a common liability belongs to a common currency.

· In July 2012, *TNS Emnid* 1503 surveyed over 1503 Austrians and Germans older than 13 year old about the crisis. They discovered that 81 % of the participants support a new economic order, that forces protection of environment, careful dealing with resources and social balance. Less than a third of Germans and less than a quarter of Austrians believed in the self-healing powers of markets. In terms of strategies for overcoming the crisis, the respondents split into two camps: those who favour more growth and those who saw clear austerity as a solution.

· In face-to-face-interviews with 26.593 Europeans aged 15 and over *TNS opinion* (2012) made a Eurobarometer survey about the crisis and the economic governance in Europe on behalf of the European Parliament. Whereas 25% agreed to stimulate the economy, 23 % supported decreasing public spending. There seem to be a clear favour of collective coordinated action by 55 %, while 38% are in favour of individual measures. 80 % regard help by conditions and 72 % call for penalties against breaking rules.

Looking to the very different results of the polls on behalf of different actors it seems to be obvious, that the different explanations, the participants were asked about the causes, produce contrary opinions especially between national sovereignty and EU coordination, but it does not show the different views of the young people in the different European states.

Exploring the views of European students on the economic crisis

As a European project the Association of Economics Education in Europe also wanted to

discover the views of European students about the economic crisis. Far from being a representative study 680 students participated in this survey, coming from Italy (30%), Austria (23%), Germany (20%) and Ireland (12%), France and United Kingdom (both 6%), 43% are Male and 57% Female, 75% are born between 1993 and 1995. 60% attended economics courses – most of them being Italians – 34% attended social science including economics, with the majority coming from Germany. The preliminary findings give an impressive insight to the different types of crisis according to blamed causes as well as claimed measures to solve the crisis.

· Who or what is responsible for the crisis? The interviewees were asked: *“To what extent did you agree that the following have contributed to causing the current economic crisis?”* (Question 12) and, *“Do you believe that the causes of the crisis originate mainly in your country, in other countries, in the rest of Europe, in the rest of the world outside Europe?”* (Question 13-16): Most of the participants – independent of country, sex and course – blamed the banks for high risk lending and borrowing. Looking at the differences within the countries, most of the participating Italians (mostly students in economic courses) blamed the action of their own government, but also the tax evasion and the growing gap between rich and poor. Even more, the participating Germans (mostly students in social science courses) blamed the economic gap between EU-countries. Most of the Austrian, German and male youths found the origins of the crises in other countries, where the level of those who also blamed their own country reached the highest score in Italy.

· What are possible solutions for the crisis? The participants were asked: *“In order to solve the crisis in your country/the European Union it is necessary to ...”* (Question 17, 18): Nearly two thirds of the participating students called for economic growth, more than half of them asked regulations of financial markets and demanded European inspectors for that context. There are great differences between European countries and subjects belonging to the European Integration: Whereas Italians and students in economic courses prefer EU-Inspectors, the participating Germans and students enrolled to social science go for a common European Ministry of Economic Affairs. According to their national concerns, there were more Italians asking for help to enable weak countries paying off their debts respectively transferring funds. Only a quarter of the participants agreed to exclude weak countries from the Eurozone or to reduce social welfare in weak countries.

· What do the European students associate with the crisis? They were asked: *“Write some words and phrases that they associate with «the Economic Crisis» that has been domination the news.”* (Question 10). The directly affected students in Italy and Ireland are concerned about broadening of the hassle, unemployment, low investment rates, recession, depression, inflation, poverty and suicide. To the Germans the

loss of the value of their currency, raising debts, instability, Eurozone-exit, dissatisfaction, but also some commitment with the countries in the south have been the most mentioned associations.

Crises - a golden opportunity for economic education?

It seems a bit sarcastic, to call the crises a golden opportunity for economic education. Many articles in this issue talk about the crisis as an “ideal” (MITTELSTAEDT, etc.) or “golden” (LÖFSTRÖM / VAN DEN BERG) teaching moment, which promotes even without formal instruction the understanding of complex economic concepts (PLIAKIS et al). Some authors require different social science concepts to explain and deal with the crisis (MITTELSTÄDT et al), but also the ability to promote the understanding of the political and economic contexts (LÖFSTRÖM / VAN DEN BERG) in order to control the political and economic authorities as well (PLIAKIS et al). As the development of such an understanding should be considered, PLIAKIS et al test Greek students with the test of economic literature (TEL), JEZIORKI et al illustrate the understanding of uncertainty and risk in time of crisis of Italian and French adolescents and SPEER/SEEBER examine the existing understanding of young Germans about credits and loans. Looking at the understanding of teachers and students the studies from Finland of LÖFSTRÖM / VAN DEN BERG clarified the understanding of economic and political contexts within the crises, while ASANO ET AL express their concern about the quality of economic competences by Japanese teachers of civics tested with the TEL. The last two contributions do not deal with the crises. VARUM et al gives a review of the focus of research in economic education in recent decades. As an example of good practice (without peer review) WEYLAND/REHM show with a case study, that economic education could be implemented as well in a subject of social science. The following should give a little insight in the contributions.

To EWALD MITTELSTÄDT, CLAUDIA WIEPCKE and ROMAN LUTZ the Financial Crisis seems to be an ‘ideal teaching moment’, as their contribution promise to foster socio-economic learning. The authors give an overview about the causes of the financial crisis and discuss solutions without neglecting social and ecological constraints. Regarding the traditional economic, political and sociologic concepts of human activity the authors criticize their shortcomings and propose a ‘deuteron’ learning model for learning in and from the crises. Based on the categorical approach of economic education it should be combined with ethics, history, civics and also natural science.

The crisis does not only seem to be an ideal teaching moment at school, as IRAKLIS PLIAKIS, DESPOINA BOUSIOU-MAKRIDOU and STAVROS TSOPOGLOU discover in an exploratory research in Greece. The everyday presence of the economic crisis increased the students’ performance of some complex concepts of economics in the TEL, which

seem to be considerably high compared with results in the US, although the mean score is lower. Most astonishing is the increase in complex concepts, which were not thoroughly taught, like budget deficit, unemployment or per capita income. Asked about the sources of their economic information the students mentioned besides the first year at senior high school their family, internet, television and friends as important source of data. The authors conclude, that it should be necessary, to identify closer those experiential-empirical knowledge, to meet the willingness of participating and get a deeper understanding of the social phenomena – referring to the basic aim of school: creating democratic citizens, who are able to control the political and economic authorities.

A special attendance to the relationship between school knowledge and social knowledge was focused by AGNIESZKA JEZIORKI, ALAIN LEGARDEZ and DORIS VALENTE. Since 2000 they analysed the representations of Italian and French students about Uncertainty and Risk. Nowadays looking at those representations in the times of crisis they want to identify constants and changes by speculating on causes and effects. They base their research on the one side on the structural approach of social representation in order to find the elements of the core concepts of uncertainty and on the other side upon socially acute questions in order to transform it in social knowledge and civic behaviour. They show that 2009 the students primarily evoke crisis, unemployment, inflation and the stock market as well in Italy as in France, whereas risk is connected to investment, business and financial markets. Due to their study the participants regard the big actors bearing risk and the small ones, but also the governments having to deal with uncertainty. With regard to the concept of uncertainty, they note a significantly higher presence of the socio-political context of the time and between countries in the results of 2009. The authors hypothesize that the concerns of the young Italians are likely to be radicalized by a deepening of the crisis. Discussing the existence of social representation, effects or orthodox contexts, the existence of concurrent knowledge, they finally draw conclusions to develop teaching strategies to identify obstacles and support.

Not facing national debt but taking a loan is the subject of SANDRA SPEER and GÜNTHER SEEBER, who want to give a systematic picture of students' reasoning about private credit with a phenomenographic access in order to understand the financial understanding of secondary school students and teacher trainees. Before designing their own study they give us an insight into the findings of financial literacy research, looking at financial knowledge and counting with interest and inflation rates as well as behavioural Economics and Economic Psychology, discovering the factors influencing the bounded rationality. In 13 focus groups with 89 persons discussing carefully structured different cases of loan taking, which could be used as case studies, the authors show moral attitudes, needs, credit

terms and calculation as part of the hierarchy of judgments on the one side, liquidity more than risk, budget more than needs, while misunderstandings develop by mixing up terms, neglecting incomes, costs or saving. Besides given a basis for application of variation theory the authors recommend their case studies and results for teaching economic education to become aware of the level of reasoning and attitudes influencing behaviour and the own moral pre-concepts, exaggerating the picture of total credit costs.

Like other authors in this issue JAN LÖFSTRÖM and MARKO VAN DEN BERG regard the economic crisis as "A golden opportunity for economic education", regarding the growing interest of the youth in discussing economics. On the one side they present a close insight into the Finnish subject of social studies. This subject discusses the political system and economy in two courses, currently mostly taught by teachers of history. On the other side they design a thick picture about the treatment of the financial crisis in economic education as a part of social studies by a detailed analysis of textbooks and examination results. Whereas a wide national core curriculum gives a lot of flexibility, their analysis led them to discover a prudent and neutral view on the financial crisis in textbooks, whereas in economic education the dominance of a neoclassical approach exists, while the authors miss the intertwining between politics and the economy. Analysing the results of students' examination they regard lacks using appropriate economic terminology with conceptual errors, while the students dominantly try to describe narratives of economic events, pushed by structural forces. The authors found lacks regarding the inner logic on the one side and conceiving economy as a field with human actors on the other side. Far from blaming the Finnish students, who reached high scores in international comparison tests, the analysis contains the different conditions leading to these results and finishes with the appeal, to reflect much more economy as a part of society, which affords the combining from historical, sociological and political analysis with economic education as well.

Close to the missing economic background of Finnish teachers TADAYOSHI ASANO, MICHIO YAMAOKA and SHINTARO ABE are concerned about the quality of economic competences of the teachers of civics in Japan, who have to teach economic literacy, but seldom studied economics themselves. So they investigate the attitudes and thoughts about economics and economy of the teachers. In their article they show clearly the characteristics of economics teachers in Japanese high schools by their profile, their present, post and school characteristics, their learning experience about economic issues, in order to clarify one important factor why many high school students lack for economic literacy in Japan. So they are able to "form a true image of those teachers", showing that a few of them never studied economics and many of them display difficulties teaching economics. As attitudes the authors discover an egalitarian view, criticism

against moneymaking, mistrust against market mechanism and a high acceptance of government's intervention to correct results of market transaction. Whereas also the students dislike Civics most of all subject areas, the authors conclude an extreme scope for improvements in textbooks as well as in teacher competences.

The adventure to throw light upon the growing outcome of economic education research had been undertaken by CELESTE VARUM, ABIGAIL FERREIRA and ANA BREDA. The authors review the directions that research about economics education have followed in the last decades, in order to systematize and organize the literature. The results should bring the value to a wider public and indicate the fields for future research. Analysing the Science Citation Index and the Social Sciences Citation Index as well as four specialised journals (including this one) they found contributions to different topics economics education research are addressed to: issues and questions, techniques useful for research, ideological message, level of economic literacy, contents and structure of economics education in different countries, methods and materials, outcomes from instruction, efficiency of courses, students attitudes and values, students understanding, teacher effects, learning outcomes and performance depending on personal and sociocultural characteristics. Besides the value of showing the "fathers and mothers" of that typical kind of research in the field of economics education and the growth of results, the authors point out the windows of opportunities for future research. In their opinion the adequate time of beginning economic education, teaching methods and the use of economics education to individuals' attitudes and competitiveness are those issues.

In their case study MICHAEL WEYLAND and MARCO REHM attract attention to the controversy, whether economic education should be anchored on own or as an integrated subject like social science. Given an example of a German grammar school, where economic education seldom is placed as a lone subject, the authors show by presentation of examples how economic education can be placed in a social science subject with success, like some prices in competition show. Even if the examples seem to be well known for typical economic education the authors demonstrate that a social science subject must not occur problems, but could allow additional benefit: Problem and action oriented, research based learning could foster multi-dimensional economic learning without neglecting economic theory.

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Ewald Mittelstaedt, Roman Lutz, Claudia Wiepcke

The Financial Crisis – An ideal Teaching Moment

Keywords:

financial crisis, economic instability, global value-added gap, saving, indebtedness, income distribution, single loop/ double loop/ deuterio learning

Does after the crisis mean before the crisis? Financial crises are part of the economic cycle and therefore not only absolutely normal but under certain circumstances beneficial. Is this also true for the ongoing financial crisis? It might be too soon to draw final conclusions, but financial crises show a great potential to encourage learning from the past and to foster socio-economic education. That's not meant as a belittlement of the financial crisis, but should sharpen the mind to notice a primary dilemma of our economic system: Even though increasing credit facilities contributed to the economic prosperity during the last decades, the development of savings and debts should be in balance with the long-term productive capacity of society, economy and environment. The authors will review certain aspects and causes of the financial crisis under social and environmental constraints and will discuss possible long-term paths of development from an economic perspective. Following this, didactical implications will be considered and feasible learning content will be discussed.

1 Introduction

Literally, the term "crisis" means "crossroads" or "parting of the ways" in the original Greek and thus symbolizes a situation, in which something can develop in different directions (Graeber 2011, 185). Certainly, the financial and economic crisis is such a parting of the ways and raises the question, to what extent the affected citizens try to become "familiar with the place" in order to be able to contribute to a decision on the direction.

In an Europe-wide, representative survey by TNS Infratest (2010), 51 to 87 per cent of the interviewed (according to the country) said that during schooldays, periods of vocational training or years of study they had learned little or nothing about economics and finances. Traditionally, Europeans and especially the Germans neither inform themselves sufficiently in a private context (e.g. conversation amongst relatives and friends) nor with respect to so-called "public knowledge" (generated from economics literature or relevant newspapers/magazines) about financial matters. With regard to the previous year of crises only eleven per cent of the interviewed Germans (ibid.) said they informed themselves actively, e.g. by reading the financial section of a newspaper. Has the financial and economic crisis changed anything? The media-producing institutions report massively about the financial and economic crisis. Even in 2012 the media covered the financial crisis of 2007-2008 as

well as the "European Debt Crisis" on an almost daily basis. However, considering the media-consuming citizens the feedback was not much to look at. An analysis of news queries on the internet (Google Zeitgeist 2008-2011) does not show a top-ranking for any crisis-related keyword in Europe. And also the above-mentioned research study on financial matters shows that since the beginning of the crisis only about six per cent of the Germans increased their activities to educate themselves further in the field of financial matters, but just as many also decreased their activities. One reason for the reluctance to inquire about the financial crisis could be the crisis semantics itself with a broad variety of incomprehensible acronyms (CDO, ESM, EFSM etc.) and an inconsiderate repetition of veiling euphemisms respectively dysphemisms (e.g. bailouts and financial umbrellas respectively bad banks or toxic stocks). However, it is noteworthy that according to the study especially persons, who already acquired considerable knowledge about economics and finances while going to school, are also much more eager for knowledge with regard to the crisis.

If socio-economic education is supposed to enable students to orient themselves in socio-economic processes and to play an active role in the shaping of the socio-economic system, an up-to-date and explosive topic such as the financial crisis should not be neglected. The present contribution meets this challenge. The claim is not just to deal with the financial crisis in a descriptive way or to exhibit pseudo-controversies about market-optimistic versus market-pessimistic positions. From the authors' point of view the educational potential is not even utilized totally, if the financial crisis is only used as an opportunity to deal with the common socio-economic categories. Therefore, in this article, the educational discussion comes after a thorough analysis of the topic (of the financial crisis and possible paths of development). Later on, it is debated, how learning in and from the crisis can be modeled and what kind of implications it has for socio-economic education.

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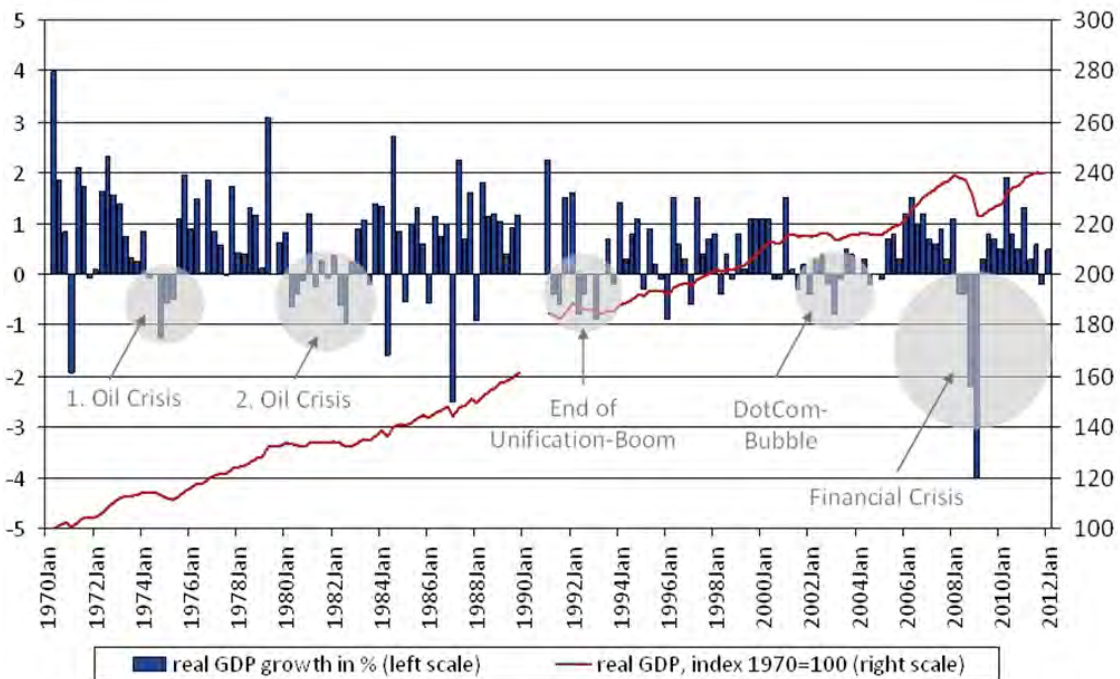


Illustration 1: Development of real GDP in Germany 1970-2012 (sources: Bundesbank, own calculations)

2 Economic analysis of the financial crisis

2.1 Historical classification

Without doubt, the financial crisis, whose effects have been keeping us on tenterhooks for nearly five years, marks a serious break in global economic development. For the first time since the survey of the data, global economic performance decreased on an annual basis: According to the World Bank the real gross domestic product 2009 decreased by 2.3%. Almost all economically advanced nations registered massive market downturns. Only the big, emerging markets could still register a positive economic development for the whole period between 2007 and 2010, although on a lower level.

Illustration 1 classifies the economic development of the last four decades for the biggest national economy in Europe. Illustrated is the development of the German real gross domestic product in the period between 1970 to 2011 – index-based (right scale) and in annual growth rates (left scale).

If you consider the economic development of Germany in the last four decades, the enormous increase of economic performance is apparent. When you set real GDP of 1970 as 100, it is more than 240 today. This comes up to an average, annual growth rate of 2%. The latest financial crisis does not change this image substantially. Without the heavy economic collapse 2009 the real economic performance of Germany today would only be 10,5 billion Euro (0,4%) higher than officially stated (implying a proxy of the average annual growth between 1970 and 2008 of 2,2 % also for 2009).

Like every developed economy also the German was confronted with several crises in the past. Market downturns and recessions are a natural

element of the economic processes and originate from the compensating interaction between supply and demand. To some extent, as in 2001 after the bursting of the DotCom-Bubble or also in the current crisis, previously built up exaggerations are reduced to a more realistic degree. Also if they partly have painful “side effects”, e.g. in the form of unemployment or loss of property and income, crises also create the potential for further development. Even though it will be remembered as a comparatively serious recession – also in the long run, the financial crisis of 2008/ 2009 joins a long list of economic crises. Within the last 40 years Germany underwent eight technical recessions (at least half in series with negative growth).

The comparative look at the recent past can modify our view of the current crisis to some extent. However, the reasons for the problems should in no way be trivialized. Quite the contrary: A more profound understanding of the connections and reasons for the crisis can contribute to changes so that the extent of future economic crises will be smaller. An important reason, especially with regard to the severity of global, economic market breakdowns can be seen in the long lasting growth of economic imbalances.

2.2 Economic imbalances as central reason of the crisis

The global economic development of the last decade is, among other things, characterized by increasing imbalances (e.g. Obstfeld & Rogoff 2009). On the one hand there are national economies that realize enormous saving surpluses, or in other words they built up a significant amount of claims – first

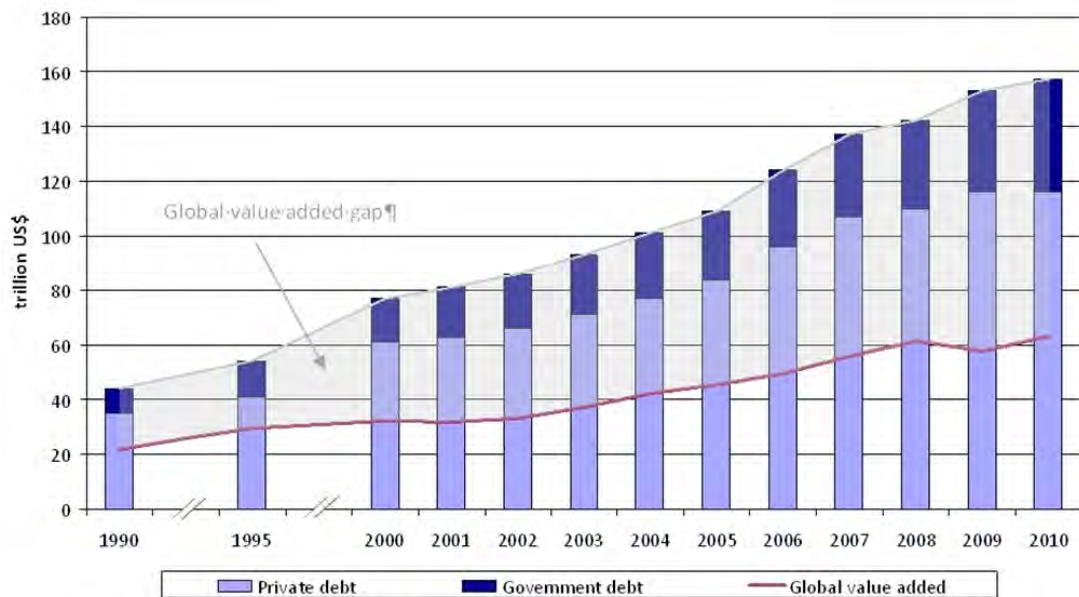


Illustration 2: Global value-added (nominal GDP) and worldwide indebtedness/ savings 1990-2010

(source: Roxburgh et. al (2011, S. 2), McKinsey (2009, S. 9) IHS Global Insight, own calculations)

and foremost the export nations China, Japan and Germany. On the other hand there are countries which accumulate huge mountains of debt; here, the USA stands out notably.

A consideration of the globally aggregated level furthermore shows that the economic development in the form of global GDP could not keep up with the worldwide dynamics of indebtedness or savings. So the global value-added (nominal GDP) increased by about 80% within the last 10 years. In the same period of time the worldwide total indebtedness rose by 160%.

Illustration 2 shows an estimation of the global total indebtedness (private and governmental) on the basis of a random sample of altogether 79 countries. As the methodology of the survey is difficult to reconstruct, the illustration only has an indicative character. But on a global level there is currently a lack of comparable information from other sources.

The central basis of findings to understand the financial and economic crisis is the following:

Debts and savings are two sides of the same coin. On an aggregated, global level the savings (or claims) development always proceeds inversely to the debt dynamics. Making debts or rather the debited interest, which results from this, is a form of redistribution – from the debtor to the creditor. The debtor promises the creditor to activate his debts with future value-added.

The possibility to go into debt was a central basic requirement for our economic advancement in the last centuries. As a form of redistribution debts cannot be classified as generally problematic. But if the building up of debts (promise for value-added) is bigger than the value-added development in the long run (debt sustainability), a value-added gap develops, which theoretically has to be closed sometime in the future (Eichhorn & Solte 2010, 51).

It is difficult to say when the value-added gap starts to exceed a “healthy” rate and in the long run results in economic problems. If the international dependencies in the form of debts on the one hand and the savings on the other hand increase excessively, the sensitivity and responsiveness of the actors grow. All in all this causes market fluctuations, which can continue and intensify in a more or less uncontrollable way. The crises, which recently occurred, are evidence of this development (Easterly & Roumeen & Stiglitz 2001).

Causal for the development and extension of the global value-added gap were and are manifold economic imbalances:

- National differences in consumption and savings combined with different development speeds between emerging and industrialized countries partly contributed to huge savings surpluses or debts (Bernanke 2007).

- To some extent this was enhanced by misaligned national monetary- and fiscal policies (e.g. policy of low interest rates in the USA, the monetary policy of China, the economic policy of the EU). Each nation following its own interests has additionally promoted imbalances on a global scale (Blanchard & Milesi-Ferretti 2010).

- For some economies demographic change necessitate increased saving (e.g. Germany, China, Japan), whereas other nations at present do not (yet) exhibit a comparable necessity to save (e.g. USA) (Higgins 1998).

- An “innovation” dynamic in the financial sector, which has been accelerated enormously in the last 30 years, combined with the increasing global interconnectedness made financial transactions possible that in the past would not have been imaginable. Apart from that a strong market optimism in the last decades resulted in an increasing deregulation especially with regard to capital markets (Bofinger 2009, 85). Just think about the

liberalization of the European insurance market since 1994 or the Interstate Banking and Branching Efficiency Act from 1994 which authorized free interstate banking within the USA (Favare & Imbs 2010). All in all this process contributed to an advancing separation between the financial and the "real" economy (Allen & Snyder 2009, 37), which for example could be seen in the emergence of a significant excess liquidity on the money market.

- The pursuit of "more", which is typical for humans, is one of our strongest incentives and last but not least the basis for our economic development (Smith 1759). But if this is not inhibited, it also might contribute to exaggerations, which subsequently have to be handled in the form of crises. With regard to the depicted development of a continually increasing global value-added gap, there are also contrary tendencies, which have the potential to attenuate or rather to reverse it in the future.

- Demographic developments will adjust. Nations which in the past had a demographically conditioned necessity to save will overage and consume their savings. In contrast, other nations will start to accumulate savings surpluses in order to be able to shoulder demographic burdens in the following decades.

- Differences in savings and consumption between countries will presumably shift. In some of the big emerging markets the consumption pattern will change with the increasing development (Guo & N´Diaye 2010), whereas in some industrial economies saturation tendencies possibly repress consumption (Reuter 2010).

- The separation of the finance and the "real" economy might not continue in an uninhibited way. Possibly the cycle of "innovation" in the financial industry, which is closely connected with the development of information technology, will subside. In other industries this has already been experienced in the past (Klepper 1997).

- There is the chance that - in the future - there is a better alignment of national monetary- and fiscal policies on a global level and that a sound system of regulation for international financial markets will be found and implemented. Nevertheless, these are just speculations about the future which may just be wishful thinking.

In so far the current economic model is not necessarily doomed to failure, as at present can be read in many places. But in order to guarantee long-term stability, some adjustments are necessary. If the system is left to its own resources, economic turbulences in the recently experienced extent will occur more frequently in the future.

2.3 Potential paths of development

Referring to illustration 2, three different approaches for the future development of the economic system can be identified. According to the arrangement they can turn out to be more at the expense or in favor of creditor or debtor:

a) Increasing of the value-added so that it is

brought close to the level of debt.

b) Decreasing of the level of debt so that it is brought close to the value-added.

c) „Business as usual“.

Five different options for action as possible development paths can be deduced from this.

A1) Real growth (Creditors consume more)

One possibility to align the value-added with the level of debt, are higher real growth rates. For this purpose today's creditors should start saving less or rather consuming more. In return today's debtors would generate higher revenues and could reduce their debt dynamics. To some extent this process will start in a self-regulating way in the following years. As already described, some national economies with current savings surpluses will feature savings deficits in the future and vice versa. How creditors, beyond that, can be motivated to stop saving, remains unsettled.

A2) Nominal growth (Devaluation of savings and debts)

The value-added gap could also be closed by a merely nominal growth. Inflation would entail a reallocation of assets at the expense of creditors. Partly, previous debts would be devalued. Contrary to the general opinion, inflation cannot simply be created. Basically, price increases are always the result of excess demand. Indeed, public policy and also the central banks can try to influence the aggregated demand behavior by means of indirect stimuli (monetary policy, public relations etc.). Direct control is not possible. Thus, the "path of inflation" theoretically is a possibility to close the value-added gap in parts. However, in practice this is not an instrument that can be applied in a controlled way.

B1) Forced saving (Debtors consume less)

Today's debtors could be „forced“ to reduce their debts. All else being equal, this would first of all result in lower consumption. In turn, this would result in lower real growth rates, unemployment would increase and social problems would be amplified. In some approaches exactly this can be observed recently. Whether on the private or the public level - it is difficult for many debtors to continue making debts as usual. The consequences of this „Deleveraging“ can be observed in the USA as well as in Greece. In the long run, this will also have an impact on today's creditors. Thus, it is very likely that their saving surpluses will be lower than in the last years.

B2) Debt relief (Creditors agree to waive their claims)

Debt relief is also associated with distribution effects - e.g. pension savings might be in danger. But in contrast to forced savings the creditors bear some part of the burden. Engaging the creditors may also cause adverse effects as it could create negative incentives for investors with possible contradiction of economy. Nevertheless, comparable with private-law regulations on insolvency

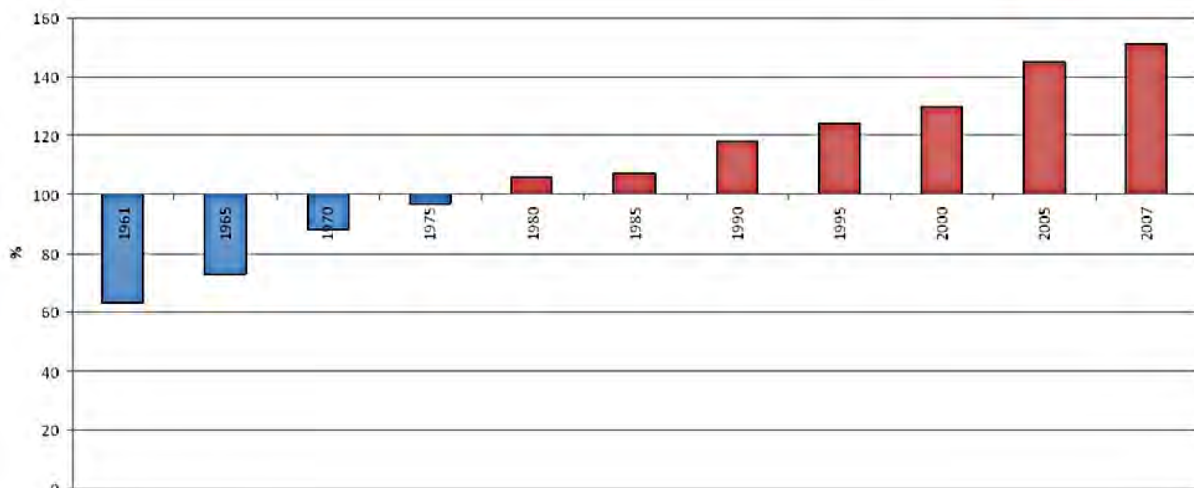
proceedings, a public insolvency law could be introduced. In an ordered proceeding a debt relief would be undertaken methodically. Ideally, an ex ante public insolvency law has got a preventive character, as it reveals the default risk of public bonds. With this procedure, the debt dynamics could be restricted at large. Already for many years the International Monetary Fund has been discussing an appropriate mechanism, but even the EU will not pursue this approach in the short or medium term (ex post) despite the current debt crisis and the risk of respective contagion effects (Beck & Wentzel 2010, 74). Thus, an implementation does not seem to be realistic.

C) „Business as usual“

A scenario for the future which seems to be very likely for the following years does not envisage substantial changes in the global economic structure. Today’s creditors continue saving, today’s debtors continue incurring debts, the value-added gap continues to expand. Whereas a closing of the value-added gap can contribute to a certain stabilization of the economic development, “business as usual” is the basis for future extreme crises. In recurring cycles, overindebted or illiquid market participants become insolvent and cause problems.

2.4 Ecological dimensions: nature and social freedom

The “choice” between the depicted, characteristic paths of development already seems to be difficult enough. To make matters worse, there are environmental as well as social preconditions that increasingly limit the scope of action. It is beyond dispute that our economic activities are not in line with a sustainable use of natural resources. To exemplify this, the concept of the ecological footprint will be used here. The concept of the ecological footprint is not without controversy (cf. e.g. Moffatt 2000), even though so far there is a lack of clearly superior measurement methods. At this point the results are only supposed to have an exemplary character. The concept of the ecological footprint relates the annual consumption of bio-capacity (first and foremost the emission of CO²) to the reproduction of bio-capacity per year (CO²-absorption). Until the end of the 1970s a surplus of CO²-absorption could be observed on the global level (Global Footprint Network 2010). However, since the 1980s the ratio has inverted. Every year more bio-capacity is consumed than reproduced – in a manner of speaking ecological debts are built up (Becker 1998, 2). The most current date from the



s Illustration 3: Relation of annual consumption and annual reproduction of bio-capacity global 1961-2007 (source: Global Footprint Network 2010)

Country	Reproduction of bio-capacity	Consumption of bio-capacity	Ecological debt/ surplus
USA	3,9	8,0	-107%
Japan	0,6	4,7	-689%
Germany	1,9	5,1	-164%
China	1,0	2,2	-126%
India	0,5	0,9	-79%
Brazil	9,0	2,9	+68%

Table 1: Annual reproduction and consumption of bio-capacity in hectare per capita 2007 (source: Global Footprint Network 2010)

year 2007 show that every year we consume 1.5 times as much bio-capacity as it is reproduced (cf. illustration 3), or in other words: Humanity would need 1.5 earths to be able to carry on their current economic model permanently (Ketterer & Lippelt 2010).

With regard to the consumption of natural resources there are considerable regional differences (cf. table 1). Again, the ecological footprint is used to exemplify this. On the one hand the differences can be accounted for by different geographical conditions. For example, the extensiveness of forest areas, which can absorb high amounts of CO₂, is distributed very differently on a regional level. On the other hand countries feature strongly differing economic production processes and levels. Currently, industrial economies make the biggest contribution to the ecological debt accumulation. Emerging countries still are behind that. However, it is very likely that this will change in the following decades, even if many emerging countries learn from the experiences of industrial states and skip some of the ecological developmental stages.

In the future the ecological threshold will also influence the economic development. In this context there won't be "business as usual" (cf. Meadows et al. 1972). On the one hand a limit for conventional growth could be deduced from the finiteness of natural resources (Lutter & Giljum 2009). On the other hand the side effects of the decade-long overexploitation of natural resources could weaken the trend growth (e.g. environmental pollution, climate change, more frequent and graver natural catastrophes). For this also compare the discussion about „Peak Oil“ or rather „Peak Everything“ (Heinberg 2010), the excess of the maximum output of natural resources.

If you put the above-mentioned development paths with regard to dealing with the global value-added gap in an ecological context it becomes obvious that the growth strategies (real or nominal growth) as well as "business as usual" are on a collision course with ecological necessities and thus cannot be implemented without conflicts. Only the often-cited, but so far not sufficiently observed, green growth utopias ("green technologies", health care market) raise hope at this point. It remains to be seen if they will occur to an adequate degree.

In addition to ecological restrictions, which become more and more important in the future, also social aspects will co-determine the process of a consolidation of the value added gap. In this context the past decades came along with growing social instabilities, which e.g. can be illustrated with the help of the development of the income distribution (cf. illustration 4). The Gini coefficient for the national income distribution is one of the most established parameters to illustrate economic results of distribution, but nevertheless it is not without criticism (e.g. Atkinson 1970). National gini coefficients have been increasing steadily for the last decades with only a few exceptions; i.e. that the income distribution becomes more and more unequal (Milanovic 2009 and 2011; Solt 2009). In general, also the distribution of wealth becomes increasingly unequal, even though the survey of wealth is connected with comparatively bigger methodical difficulties than the calculation of income (Frick & Grabka 2009). With a view to the future a further factor might be that the above-described ecological development in the next decades will also have a negative impact on social imbalances (Eboli et al. 2010; Tol et al. 2004). In this context it can be expected that the adaptability

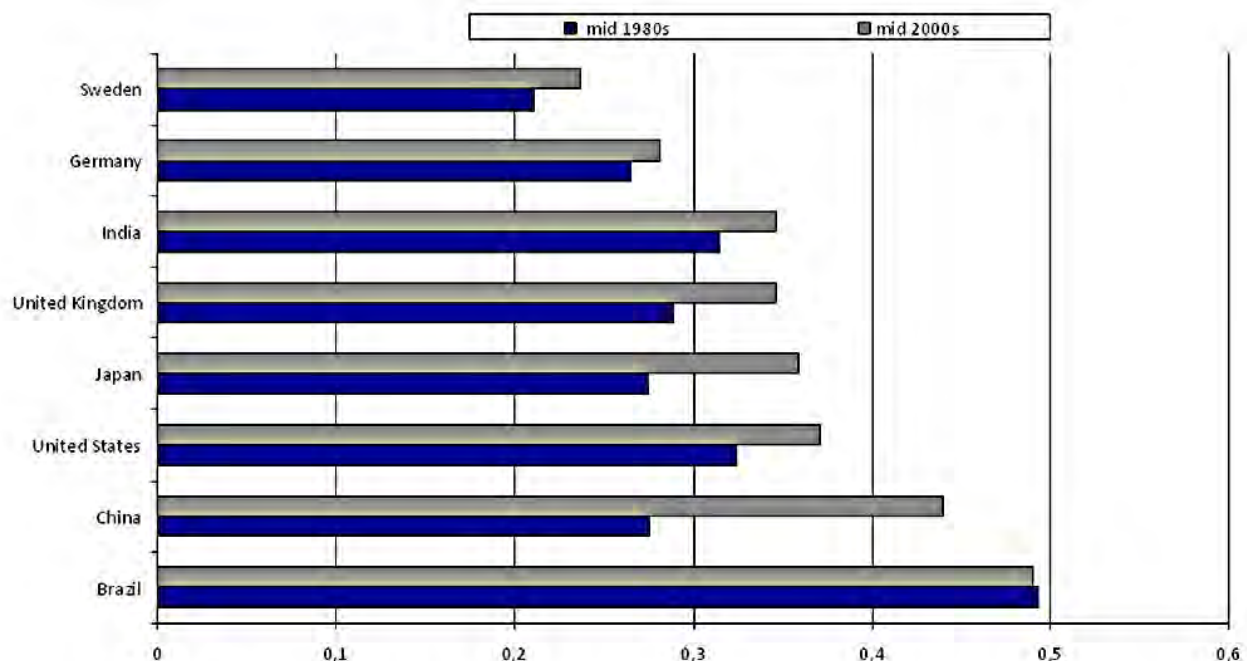


Illustration 4: Gini coefficient of the national distribution of income

(Source: Solt 2009, own calculations)

of the socially disadvantaged with regard to climate changes turns out to be less; thus, economic consequences of the climate change might strike these population groups hardest.

The discussion about distribution inequalities is controversial. Some consider this as the crucial impulse for economic action. However, this does not apply infinitely. As soon as the unequal distribution exceeds certain (difficult to identify) limits, it rather is counterproductive from an incentive-theoretical point of view and can result in social problems (Aghion et al. 1999). The national and global developments with regard to the distribution of economic outputs in the last decades lead to doubts with regard to the social and finally to the economic sustainability. A further divergence of the social gap constitutes a substantial risk for the stability of the social- and economic system (Berg & Ostry 2011). Beyond that financial crisis itself can contribute to increasing inequality because they often go along with negative distribution effects (Bofinger 2012, 23). Scopes for decision-making with regard to a strategy for closing the global value-added gap are severely limited by this. "Business as usual" as well as a purely nominal growth or simple "deleveraging" will probably be attended by an intensification of social differences and thus seem to be problematic. At least it will not work without accompanying governmental interventions. The decision- and coordination processes, which are necessary in this context, lead one to assume that there will be more social conflicts in the future. Inequality because they often go along with negative distribution effects (Bofinger 2012, 23). Scopes for decision-making with regard to a strategy for closing the global value-added gap are severely limited by this. "Business as usual" as well as a purely nominal growth or simple "deleveraging" will probably be attended by an intensification of social differences and thus seem to be problematic. At least it will not work without accompanying governmental interventions.

2.5 Interim conclusion

Economic crises are a recurring element of our life. We should look into this subject and try to detect the reasons. Also the current financial and economic crisis is only one of numerous economic crises we have experienced in the last decades – and certainly it won't be the last. Causal for the considerable extent of the current economic upheaval are distinct exaggerations before the crisis. This has resulted in the fact that the efficiency of our economic system has been strained increasingly. Indebtedness and savings literally outgrow global value-added. Thus, the global indebtedness dynamics disconnected from the development of the debt sustainability in the last decades. In this way a value-added gap originated and expanded, which theoretically has to be closed in the future – at least, if we intend to limit the dimension of economic crises in the future.

Theoretically, there are different paths of development, which could be taken concerning this matter. An increased real economic growth would decrease the value-added gap as well as inflation, a modified behavior with regard to saving or making debts or a debt relinquishment. When "choosing" one of these alternatives it might be complicating that ecological and social conditions increasingly restrict the scopes of action. Without a systematic and systemic rethinking concerning the economic architecture and the handling of resources (financial but also natural and social), which is intended with this, a faster recurrence of extreme crisis becomes very likely. There is no easy way out.

3 Educational reflection

The financial crisis is an eclectic phenomenon, which can be considered from the perspective of different theoretical disciplines. Activity theoretical models play a central role in social sciences and their referring educational approaches. Whereas sociology considers social action as articulation of socialized humans (output), which is evoked by elements of social order (input) (Schäfers 2006), political science considers in addition to "polity" as the institutional frame (input) and "politics" as the processes of politics (actions) also "policies" as the realm and results (output) of public action (Schmidt 2010). Economics on the other hand analyzes, how and with which means (actions) individuals with stable preferences and under marginal conditions (input) maximize their benefit (output) (Schlösser 2008). All three perspectives can be traced back to the activity model, which is visualized in illustration 5. The emphasis of socio-scientific similarities should not mask the fact that on the basis of a shared activity model different activity theories developed, which partly are in diametric opposition to each other with regard to their basic assumptions (cf. actions in dilemma situations of homo oeconomicus vs. homo reciprocans). But also within the disciplines there are not less different basic assumptions (cf. the assumption of rationality of behavioral economics vs. neoclassical economics). But, the different approaches of the three socio-scientific disciplines add up to a more comprehensive picture of the phenomenon scope.



Illustration 5: Activity model of social sciences

Whereas historically the study of crises was of great importance in economics (e.g. Malthus, Marx, Keynes), under the neoclassical paradigm and its renaissance in the 1980s these approaches vanished to a great extent. One of only a few confirmative exceptions can be seen in the work of Minsky (e.g. 1982) or as a clairvoyant Roubini. This can be explained by the fact that the economic

basic assumption of stable preferences and the economic efficiency perspective do not get along with crisis situations. In contrast to this it is not totally wrong to claim that sociology is a science of crisis (Uske et al. 1998). Sociological fields of research are normally closely connected with the industrialized society and its crises, as, for example the crisis of the welfare state, the end of the lifetime-employed society or the breakdown of traditional gender relations. Political science also deals with crisis phenomena intensely (Klenk & Nullmeier 2010). The crisis is a core phase of political change and a central object of investigation of political scientific conflict research.

However, it is remarkable that the specific focus on crises (political science, sociology) or rather the masking of crises (economics) apparently led to the fact that the activity model is not differentiated further with regard to the binary distinction “crisis mode “yes/ no””. In contrast, this was accomplished in business research with the approach of organizational learning by Argyris and Schön (1978). Beyond business studies this approach has been rarely dealt with so far in social sciences in general (cf. Hall 1993) as a confirmative exception) and in its educational disciplines in particular. Organizational learning differentiates between three learning levels with regard to the activity model.

a) First order- or single-loop learning

In case of single-loop learning, actions, which do not have the desired results, are varied (cf. illustration 6). Preferences and how they develop on the basis of framework conditions, as, e.g. norms or institutions, values or policies are not reflected upon or changed. Learning on this level increases the efficiency of actions, but not the action potential.



Illustration 6: Single-loop learning

b) Second order- or double-loop learning

The assumption for double-loop learning is the awareness that single-loop learning does not suffice to have the favored result; thus, there is a massive mental disturbance which can be called crisis. In a crisis it is necessary to question the preferences and their preconditions in principle and, where required, to modify the framework conditions or rather to expand the action potential (cf. illustration 7). Learning on this level increases the effectiveness of actions.

c) Third order- or deuterio learning

In the case of deuterio learning previous problem-solving processes are reflected and analyzed. The intended purpose is to reach a meta-level by (cf. illustration 8) elaborating on learning strategies and

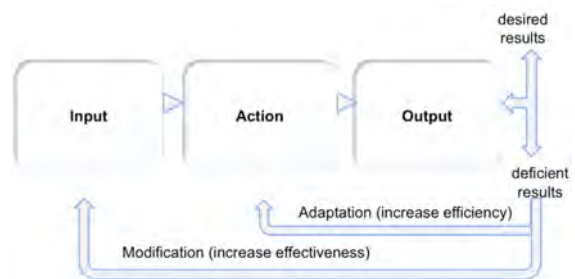


Illustration 7: Double-loop learning

by trying to optimize them. Deuterio learning enhances the ability to be able to deal with problems and to be able to distinguish if first- or second-order learning is necessary and to develop new or improved learning strategies to practice crisis prevention.

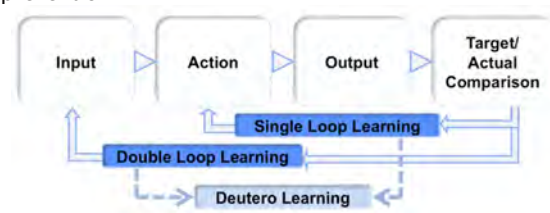


Illustration 8: Deuterio learning

The analysis of the financial crisis in consideration of environmental and social requirements shows that a real coping with the crisis cannot work on the basis of “business as usual” (cf. development path C) and also a single-loop learning according to the schema “keep it up, but better” (cf. development paths A1 or B1) does not seem to be very promising for a long-term moderation of imbalances. According to the approach by Argyris and Schön, crises require a double-loop learning, which includes framework conditions of action as values and policies. In addition to the current coping with a crisis it is advantageous in the sense of deuterio learning, to perform a reflection of social problem solving procedures.

4 So what? Learning in and from crises

The consideration of the evolutionary approach by Argyris and Schön (1978) expands the categorical approaches of educational concepts as from Kaminski and Eggert (2008) for economic education as well as from Massing (1994) for civic education. Kaminski and Eggert (2008) consider action theory as the basis for an attempt to put economic education in a logical order. Massing considers politics as an endless chain of attempts to cope with social present-day and future problems (policy cycle). Whereas in the case of Kaminski and Eggert the economic efficiency perspective dominates, Massing puts the legitimacy of political processes into the center of attention. However, both approaches systematically do not include the differentiation between first- and second-order learning and to a certain extent both approaches mask the efficacy dimension

of economic and political actions. In the following a proposal is submitted, how the particularities of a crisis could create an additional benefit for social science education. In addition to the acquisition of categorical insights (cf. a-c) learners should be enabled to realize that crises require double-loop- and deuterio learning (cf. d-g). For this purpose the following topics are suggested, which can be integrated into the curricula across disciplines.

Categorical approach (first-order learning):

- a) Connection between savings and indebtedness (economics education)
- b) Distribution of income and wealth (civic education)
- c) Growth processes (mathematics)

Reflection and learning to learn from crises (second-/ third-order-learning):

- d) Debts and morale (ethics/ religious education, German/ English)
- e) History of financial crises (economics education/ history)
- f) International measures to reorganize the financial markets (civic education)
- g) Sustainability/ ecological footprint (natural science education)

On a) Connection between savings and indebtedness

The transmission mechanism, which describes the coherences and consequences of monetary measures on the real economy, is fundamental for the understanding of the financial and economic crisis in particular and the financial and economic system in general. In standard economic education the connection between consumption and saving as well as saving and investing is dealt with again and again (e.g. www.oekonomix.de). However, the interconnection of savings and indebtedness is not thematized and likewise no basic understanding occurs. Furthermore neoclassical economics derives its models from equilibrium assumptions which can be observed as inappropriate in times of crisis. Its assumptions and shortcomings should be elaborated.

On b) Distribution of income and wealth

Huge differences in the distribution of income and wealth have always been the trigger for revolutions and upheavals (Graeber 2011). In addition it can be noticed that bubbles on the financial market often develop with a growing inequality of the income distribution (Kindleberger 1989). Higher incomes feature a higher savings ratio, which, in addition to a basic financial security, are invested also in a speculative way in shares, real estate or raw materials. However, lower income strata are normally struck more existentially by the consequences of bursting financial bubbles.

On c) Growth processes

In monetary and fiscal policy growth effects play an important role and again and again result in misunderstandings. Economist and politicians often say that we need a growth of at least two per cent

and central banks warn against an increase of the inflation above two per cent. But why is two per cent such an important threshold? If the economic growth in a country is permanently below two per cent, then it takes 35 to 70 years until wealth has doubled. This period of time exceeds the horizon of experience of one generation ("I'm not better off than my parents") so that the economic situation is perceived as stagnancy. In the Dark Ages the growth rates were even below one per cent permanently and the conception of economic activity as zero sum game established (Maddison 2001). In the course of industrialization the growth rates increased considerably above two per cent. The time for the doubling of wealth reduces to 23 to 35 years in case of growth rates of two to three per cent. Thus, the wealth dynamics between the generations becomes perceptible. In the field of inflation, the exponential growth has a contrary effect. In case of inflation rates below two per cent, currency devaluation is hardly observable, whereas in times of galloping inflations savings, but also debts, are halved in just a few years.

On d) Debts and morale

In all world religions a strange paradox can be observed: On the one hand a commercial granting of credit is objectionable, on the other hand it is an ethical command to repay borrowed money (cf. Graeber 2011, 15). The terms money, guilt and debts are not only closely related etymologically, but also on a conceptual level. The bible (e.g. Matthew 18, 23-24) and many works of world literature (e.g. Goethe's Faust or Shakespeare's Merchant of Venice) take up this topic again and again (e.g. Sedlacek 2012). In order to understand and reflect the underlying norms concerning economic activities dealing with savings and debts a liberal arts oriented approach is necessary. One can observe that the Matthew (VI: 9-13) version of the paternoster addresses debt relief as an act of Christian charity directly: „Give us this day our daily bread, and forgive us our debts, as we also have forgiven our debtors.“ That points out that financial crises does not only have an economic but also a humanistic dimension.

On e) History of financial crises

By dealing with historical financial crises, as, for example Tulip mania 1637, Mississippi Bubble/ South Sea Bubble 1719/ 1720, the first global economic crisis 1857, the banking panic 1907 or the second global economic crisis 1929 in comparison to the financial and economic crisis 2007/ 2008, learners can investigate the recurring, structural basic patterns, but also the differences of financial crises (Kindleberger 1989). It can be shown, which serious economic, political and social consequences emanated from crises. In this context, the differing handling of the first global economic crisis 1857 in the Northern and Southern states of the USA (Union and Confederate) did not insignificantly contribute to the American Civil War and also the second global economic crisis in the year 1929 promoted the rise

of fascist parties in Europe. In the past crises were the sources for fundamental economic-political reforms (double-loop learning). In this context the foundation of the American Central Banks (Federal Reserve System) in the year 1913 was an answer to the banking panic 1907, the implementation of the separate banking system (1933) in the USA was a reaction to the second global economic crisis and the particular emphasis of the stability of money in the German Federal Bank Act was an answer to the hyperinflation in 1923.

On f) International measures to reorganize the financial markets

As a reaction to the financial crisis in Asia 1997 the ministers of finance and the central bank governors of the 20 most important industrialized and emerging countries (G-20) met in Berlin in the year 1999. Nine years later, the financial and economic crisis of 2007/2008 was necessary that the G-20, this time the heads of the governments, met again in 2008. The institution of the G-20 shows that a double- or even third-order learning has been initiated and makes the policy cycle evident considerably. However, the decisions of the G-20 (Kirton 2008) show how difficult it is to really apply second-order learning on a global scale. So far, only single-loop learning can be stated:

- More accurate supervision of rating agencies
- Better control of hedge funds and extension of the regulation of financial products
- Increased equity capital requirements for financial institutions
- More transparent information for consumers
- Long-term incentive system for managers
- Fight against tax havens and
- Extension of the International Monetary Fund (IMF).

Basic changes (as a public insolvency law) are not identifiable yet.

On g) Sustainability/ ecological footprint

The concept of sustainability comes from forestry and can be exemplified especially well with the help of biological systems (cf. Piorkowsky 2001). There is a tradition of regarding sustainable development as a challenge to economic education in Germany (cf. Weber 1999). A basic comprehension of natural scientific connections with regard to production processes and the dealing with resources and emissions is necessary to make the global dimension of the problem clear and to understand, why double-loop/ deuterio learning is necessary. However, the core dilemma of "growth" between the strands of being a prerequisite for prosperity and at the same time a cause for ecological destruction still remains. Nevertheless, it has to be addressed in order to develop a moral sense.

It is a difficult undertaking to deal with the financial and economic crisis in an adequate way in terms of education. It needs a profound knowledge about basic economic and social relationships. Therefore, an extensive didactical transformation is necessary. It has to be emphasized that in addition

to categorical approaches the potential of crises is to "learn learning". Beyond that, a deep understanding of the structural problems of our international economic architecture and especially a detailed discussion about possible and probable paths of development can prepare the ground for essential future changes. Awareness about ecological and social limitations play an important role in this context. A broad based internalized understanding of future economic needs is a necessary requirement in order to tolerate partly painful changes like debt relief. It can be critically noted that the discussed potential paths of development and the featured educational suggestions follow the aphorism to source out social problems, which possibly cannot be solved by the current generation, into the educational context. The pedagogical hope is that at least future generations are in the position to counteract these problems.

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The Impact of Economic Crises on the Perception and Knowledge Level of Students Regarding Economic and Financial Concepts

Keywords:

economic crisis, economic education, secondary education, economic and financial concepts, students' perception

Economic crisis, during the past two years, has an impact on Greek students of 17 years old. Elements of the crisis have intruded on their everyday life. Economic and financial concepts constitute part of their attempt to understand the world they live in and as a result affect their educational level. This paper is an exploratory attempt to study the effects of economic crisis in the economics knowledge of Greek students using a sample of 62 Senior High School (lyceum) students. Data analyzed consists of a 30 question exam based on the Test of Economic Literacy (TEL) developed by the National Council on Economic Education (NCEE) and a questionnaire which was given at the end of the exam. The survey was conducted in two different periods in 2010-2011 & 2011-2012. Results indicate that students level of knowledge of economic and financial concepts, concerning the crisis, is considerably high compared with quantitative results from the U.S. national norming sample of the TEL.

1 Introduction

Since the beginning of the economic crisis, many aspects of life in Greece have changed. Therefore, it wouldn't be possible for Greek Senior High School (SHS) students not to be affected by the ongoing transformation of Greek society. As it is shown in a survey conducted by the Greek Children's Ombudsman, 89 % of Greek students when asked, by researchers of the same age, stated that their family life is significantly affected by the economic crisis. Additionally 92 % of them believe that the economic crisis has a significant impact on the rest of the Greek society (Greek Children's Ombudsman 2012).

Greek SHS students are facing the different aspects of crisis in multiple ways. Firstly within their families, as the Greek Children's Ombudsman (2012) reports 82% of the students say that their parents' working conditions have been somehow deteriorated. Moreover reports and articles about the economic crisis are constantly omnipresent in the mass media. On top of it, students witness the change of everyday life, especially in urban areas.

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According to our everyday school experience, students in order to understand the causes and to interpret sophisticated economic analysis about the possible ways out of the crisis, are becoming constantly more interested in Economics.

In this paper we report on an attempt, undertaken in two different SHSs, to measure students' economics knowledge. In our exploratory research we used a sample of 62 SHS students who filled in a 30 question exam based on the Test of Economic Literacy (TEL), developed by the National Council on Economic Education (NCEE) and a questionnaire which was given to them at the end of the exam. The data analysis showed a) that students' score in questions concerning economic crisis was higher than their average score in other types of questions and higher than the quantitative results from the U.S. national norming sample of the TEL and b) that students in order to fill in the 30 question Greek version of the TEL used knowledge acquired from other sources than school. However we should mention that this is a pilot research, our sample is rather small and therefore we are not able to draw any general conclusions, based on the results of this specific essay.

In the first part of the present paper we briefly outline a) the importance of mass media as an economics educational instrument, b) the concept of experiential-empirical knowledge and its usefulness in the teaching process and c) we describe the theoretical framework of TEL. In the second and more empirical part we present our data analysis whereas the last part attempts to propose a possible way of using the findings of such a survey in everyday teaching practice.

2 Theoretical framework

2.1 Alternative sources of economics knowledge

While analyzing our data we were forced to identify the importance of alternative sources of economics knowledge firstly because it was pointed out by students questionnaires and secondly

because, as we will refer to later on in greater detail, students answered correctly in subjects that are not properly or even at all included in Greek SHS's curriculum.

Beyond any doubt economic crisis has been the central focus of public discussion in Greece during the last few years. At the same time the use of electronic mass media by Greek students has been increased. One of the latest surveys concerning health behaviour in school-aged children reports that 38.3 % of Greek adolescents watch at least three hours per day TV or DVD. Moreover in 2010 the percentage of adolescents who are spending more than six hours in front of a screen of an electronic device (16.4 %) was tripled compared to the corresponding percentage in 2006, although adolescents watch less TV. Due to this finding the researchers report that there are strong indications that adolescents have been abandoning traditional media like television, in favor of PC and online information (Kokkevi et al. 2010a). Furthermore in their research concerning specifically adolescents' use of PC and internet Kokkevi et al. (2010b) report that the percentage of adolescents using the internet for more than four hours per day during the weekend was raised from 8.7% in 2006 in 27.4 % in 2010. In another research is reported that 96.3 % of adolescents aged between 13 and 17 declare that are internet users while the percentage of internet users of this age in 2002 was 41.3 % and in 2006 was 67.7 % (Focus Bari 2012). Taking into consideration the above mentioned data, researchers wanted to examine whether the economics knowledge of students participating in the survey, was enriched by information accumulated by mass media.

Bandura points out the importance of electronic mass media by arguing that: "much of the social construction of reality and shaping of public consciousness occurs through electronic acculturation" (Ziegler 2007; cit Bandura 2001, 271). Ziegler (2007) mentions that media are rapidly becoming more influential to young people than their parents or school teachers are and their role in the acculturation of adolescents have become more important than ever before. Furthermore she states that "multiple exposures to information" originated from different types of mass media have a cumulative effect on adolescents and can shape their opinion. Finally she concludes that only if we manage to have an in-depth understanding of the cumulative effect of mass media on adolescents, we will be able to specify "the power of the media on the learning process". At the same time children have an easy access to mass media, while is difficult for parents to monitor what their children are watching, especially as they are often away from home for many hours (Ziegler 2007; Raabe 2008). Therefore Raabe (2008) argues that television significantly affects the socialization of the child and the way he/she interprets his/her surroundings and that "media, especially television contribute to society's view of reality. A continuous update of society's view of itself and its cognitive horizons are

a part of this" (p. 76).

In the present circumstances mass media affects considerably adolescents' perception of the economic crisis. Schuhen (2010) conducted a survey on how university students define the causes of economic crisis and what they propose as possible solutions. In this survey participated 181 students of different semesters and majors that had to write an essay which was integrated in a questionnaire on financial literacy. Students' answers analysis shows "a clear assimilation to the argumentation structure conveyed by the media as well as the topics that have been discussed in the media over a long period of time" (p. 47). As it will be reported further down, there are indications that, in some cases, the answers of students that participated in our survey, were also influenced by the argumentation conveyed by the media. Moreover Ötsch & Kapeller (2010) argue that current economic education runs the risk of leaving "students illiterate with respect to events like the financial crisis" (p. 16).

Nowadays in Greece talking about economics often becomes synonymous with talking about politics. Arendt (2008) focuses on the fact that adolescence is an important period in someone's political socialization process in which he/she shapes a political identity. Although adolescents mostly tend to use media in an entertainment-oriented way, they also use them in order to seek political information and some researchers even consider "media powerful enough to override influences of family, neighborhood and environment" (Arendt 2008; cit Schorb & Theunert 2000).

Moreover a series of articles has been written concerning the importance of the presence of academic economists in mass media (Hamermesh 2004; Hubbard 2004; Solman 2004). The transformation of academic economists into popular "public intellectuals" mostly due to the augmentation of the number of mass media that is described by Hubbard (2004) has been a common phenomenon in Greece during the last years. Thus, this might offer a possible explanation of students' high score in questions concerning the economic crisis. Hamermesh (2004) adds that "if handled properly, the media provide academic economists with the chance to invest their time to enhance the national and global stock of knowledge about economic issues and behavior" (p. 370).

Finally we should mention that we reviewed researches and studies that took place in different countries, which at the time were facing different political and social circumstances. Therefore researchers were very cautious in using the findings of these studies in the analysis of the conditions that students in Greek society are facing nowadays. However, based on our results, we can argue that there are indications that many observations made by other researchers can be applied -up to a certain extend- in this case too.

2.2 Teaching economics in the crisis era

Economics teachers in SHS are facing a challenge: they should take advantage of the growing interest of SHS students in economics in order to help them a) learn basic economic concepts, b) better understand complex economic analysis that takes place on the media and c) attribute in the formation of new active and democratic citizens. Furthermore Hippe (2010) argues that social science education should focus on financial crises not only because they are a crucial element of modern capitalism, but at the same time “the citizenry should know how to prevent such developments which endanger its well-being in a massive way”. Simultaneously the responsibility of political and economic elites in the creation of the crisis implies that modern people should not uncritically rely on them “to promote or even to protect public welfare” (Hippe 2010).

As it can be assumed Greek SHS students have come in close touch with economic concepts in their everyday life, during the last years. Therefore it is probable that they have accumulated new experiential knowledge about economics. According to Matsagouras (2002) experiential knowledge is the set of perceptions and ways of interpreting reality that a child develops naturally through his/her everyday-life experiences. Although it is a subjective form of knowledge, is proved to be useful and functional in dealing with everyday-life's problems. Therefore didactics in order to form and teach school knowledge should not neglect experiential knowledge.

Moreover Arendt (2008) reports that Schatz & Gotz (2004) argue that adolescents show great interest in topics that are associated with their experiences from the ‘real world’. More specifically, “adolescents want clearly distinguishable and useful facts that correspond to their standard of knowledge and provide some additional value” (p. 60). Arendt concludes that “young people demand from informational content – a better fit with existing cognitive structures and needs” (p. 60). Finally Rebeck (2002) states that social and experiential knowledge not only affects students’ economics knowledge, but it can possibly offer an explanation about the difference in students’ scoring in economic tests.

In this paper we will show that there are indications that students’ participating in the research economics knowledge concerning concepts related to the economic crisis is considerably high compared with quantitative results from the U.S. national norming sample of the TEL. Finally, we will present a possible way of enriching students’ economics knowledge.

2.3 The Test of Economic Literacy (TEL)

In order to measure students’ economics knowledge we used a question exam based on the third edition of the Test of Economic Literacy (TEL), developed by the National Council on Economic Education (NCEE). According to Rebeck (2002) the TEL consists of two versions of 40 questions each

(Form A and Form B), its main purpose “is to measure student achievement in Economics knowledge”, and is extensively used in economic education research. The TEL consists of four content categories: a) fundamental concepts, b) microeconomics, c) macroeconomics and d) international economics concepts. Furthermore the questions of the TEL control the three first cognitive levels of Bloom’s taxonomy: knowledge, comprehension and application (Walstad & Rebeck 2001). As Rebeck (2002) reports the norming sample consisted of 3,288 students who filled in the Form A of the TEL and 3,955 students who filled in the Form B. 80% of students who filled in the Form A and 82% of those who filled in Form B had already taken an economics course, while the mean score of students taking Form A was 59.63% and of those taking form B was 61.25%.

For the needs of our survey we created a Greek version of the TEL that consists of 30 questions. Researchers were led to the choice of reducing the number of questions of the Greek version of the TEL based on an considerable number of surveys that have done the same in the past (Walstad & Rebeck 2001; Saunders et al. 2002; Maxwell et al. 2005; Kimmitt & Burnett 2006; Bushati 2010) and on their concern that a 40 minutes standard high-school course wouldn’t be sufficient for students to thoroughly fill in the Test and the additional questionnaire, especially due to the fact that many of the concepts that are included in the TEL, for the majority of Greek SHS students, are not a part of the SHS curriculum. However the distribution of questions in each thematic category and in each cognitive level is approximately the same with the distribution of questions in the original TEL. Finally, while translating the TEL we were based on the experience of translating the second edition of the TEL in Greek (Bousiou 1991) and in German (Beck & Krumm 1989). As Beck and Kruum (1989) mention in order to create the German version of the second edition of the TEL they had to translate the original “as literally as possible, as free as necessary”. Additionally the TEL is an educational instrument used in many different surveys in many different countries in the past (Beck & Krumm 1989; Bousiou 1991; Walstad & Rebeck 2001; Saunders et al. 2002; Bushati 2010; Hahn et al. 2010).

3 Design and implementation of the survey

The survey was conducted in two different periods in 2010-2011 & 2011-2012 in two different SHS of Kefalonia, an island of Greece, by a total of 62 students of the third class of SHS (K-12). The Greek version of TEL (TEL30) was firstly filled in, in March 2011 by 28 students that were attending the SHS of Keramies and by 18 students that were attending the SHS of Pastra. Subsequently, in March 2012, TEL30 was filled in by 16 students of the third class of the SHS of Pastra, where one of the researchers was teaching Economics that particular academic year. Out of the 62 students who filled in TEL30, 14 had attended an economics preparatory course for the university exams, while all of them had attended the

mandatory Economics course in the first class of SHS which offers an introductory but not in depth presentation of economic concepts. The concepts included in TEL are not fully covered by the curriculum of Greek SHS.

	Question/ Form of TEL	1st Class	3rd Class
1	A2	briefly	fully
2	B3	-	fully
3	A4	-	fully
4	A5	-	fully
5	A.B6	partly	fully
6	A8	-	fully
7	A.B10	very well	fully
8	B11	very well	-
9	A12	briefly	not included
10	A13	very well	partly
11	A14	very well	fully
12	A.B 15	very well	fully
13	A16	-	fully
14	A19	-	fully
15	A.B 20	partly	not included
16	A21	briefly	Partly
17	B23	-	not included
18	A.B24	very well	not included
19	A.B25	very well	not included
20	A26	-	fully
21	A27	-	not included
22	A28	very well	not included
23	A30	very well	not included
24	A.B31	-	not included
25	A33	not included	not included
26	B34	-	-
27	A.B35	-	not included
28	B38	-	not included
29	A39	-	not included
30	A40	partly	not included

Table 1: Coverage of the questions of TEL30 in the curriculum of Greek SHS

In Table 1 we present the level that each of the concepts in TEL 30 is covered during the Economics courses in the Greek SHS. When a question is characterized as “briefly covered” means that there is only a reference about that specific concept in the curriculum curriculum of Greek SHS, while when is characterized as “partly covered” means that the specific concept is analyzed, but not thoroughly. The concepts that are adequately covered are characterized as “very well covered” in the 1st class of SHS curriculum and fully covered in the 3rd class of SHS curriculum. Therefore especially the students that followed the economics course in the 3rd class of SHS were expected to be able to answer correctly the questions concerning the “fully covered” concepts. We decided to differentiate the characterization because there is a more in depth analysis of concepts in the 3rd class of SHS curriculum. The concepts that are characterized as “not included”, are those that are not taught, although they are mentioned in the economics book either of the 1st or the 3rd class of SHS.

The six highlighted lines correspond to the questions that are mostly related to concepts concerning the economic crisis. As is presented in Table 1 the majority of the students were only taught 50% of the concepts included in TEL30, in the first class of SHS approximately two years before the test was conducted. More specifically only two of the six questions related to the crisis are covered very well in the curriculum of the first class of SHS, while one of them is only briefly covered. Furthermore the curriculum in the third class of SHS only includes microeconomic concepts and as far as the questions related to economic crisis are concerned, none of them is even partly covered.

The students' mean score was 55.25%, while the mean score of those who have attended the Economics course in the third class of SHS was slightly higher (56.9%) and the mean score of those who haven't was 54.65%. Table 2 presents the distribution of students' answers, while in bold numbers is presented the number of students who answered correctly each question.

As it is already argued the majority of students had not been taught basic economic concepts, something that was made rather obvious during the analysis of the results of the test. For example the percentage of students who answered correctly the question about opportunity cost (question no. 3) was only 21%, while only 29% of students answered correctly that “a question that must be answered by people in all economic systems is how will goods and services be produced” (TEL30 question no. 6).

	Question/ Form of TEL	Cognitive Level	A	B	C	D	Blanks	Total
1	A2	II	5	13	32	12		62
2	B3	I	9	40	10	3		62
3	A4	III	7	15	27	13		62
4	A5	III	8	14	28	12		62
5	A.B6	II	4	6	7	45		62
6	A8	II	3	13	18	28		62
7	A.B10	I	56	2		4		62
8	B11	I	2		27	33		62
9	A12	III	3	29	21	9		62
10	A13	III	31		30	1		62
11	A14	II	2	2	2	56		62
12	A.B 15	III		3	54	5		62
13	A16	III	18	30	3	11		62
14	A19	III	35	11	2	14		62
15	A.B 20	III	7	3	1	51		62
16	A21	II	10	8	21	23		62
17	B23	II	16	35	7	4		62
18	A.B24	III		9	34	19		62
19	A.B25	I	3	6	12	41		62
20	A26	II	30	11	11	9	1	62
21	A27	III	32	12	5	13		62
22	A28	II	6	51	4	1		62
23	A30	III	2	27	11	22		62
24	A.B31	III	25	7	13	17		62
25	A33	I	56	6				62
26	B34	III	5	13	4	40		62
27	A.B35	III	3	34	11	14		62
28	B38	I	9	21	27	5		62
29	A39	III	14	33	7	8		62
30	A40	II	1	12	44	5		62

Table 2: Distribution of students' answers

Both these questions are fully covered in the curriculum of the 3rd class of SHS. On the other hand the percentage of correct answers in the question (no. 25) "when does a government budget deficit exist?" was surprisingly high (90.3%). Apart from the fact that the concept of deficit might be considered a complex one for SHS students, the high percentage of correct answers was difficult to be explained, because of the absence of this concept from the Greek SHS curriculum. Driven by this observation and due to the fact that since the beginning of the crisis the word deficit is in common use in daily news, the researchers focused on the questions of the TEL30 that concern concepts frequently analyzed by economists or journalists and have already become a part of Greek everyday life. In total there were six questions in TEL30 which were fulfilling the above mentioned criteria.

TEL30 Question number	Concept	1 st SHS class	3 rd SHS class	TEL 30	TEL
19	GDP	very well	not included	66%	54%
21	Aggregate demand & supply	-	not included	51%	70%
22	Unemployment	very well	not included	82,25%	64%
25	Deficit	not included	not included	90,3%	64%
26	Tax policy	-	-	64,5%	64%
30	Per capita income	briefly	not included	71%	51%

Table 3: Questions concerning concepts related to the economic crisis

Table 3 presents the results of students who filled in TEL30 in the questions that concern economic concepts related to the economic crisis. The second column presents the specific economic concept the third and the fourth column the level that this concept is covered by the Greek SHS curriculum, while the last two columns compare the results of Greek students to those of the norming sample of TEL. Students' results in these particular questions are not directly affected by the fact that 14 students attended the Economics course in the third class of SHS, as none of them is included in the curriculum. Furthermore in question no. 21 students of our sample have the lowest percentage of correct answers (51%), while it is the only one in which they have lower percentage of correct answers than those of the norming sample of the TEL. Apart from the question concerning the deficit, the other question in which students had a very high percentage of correct answers was the one concerning unemployment (question no. 22). It is interesting to mention that the exact answer to this particular question, that "an economy will typically experience a decline in its unemployment rate when there is an increase in economic growth", is one of the most commonly used phrases in the mass media during the last two years. The assumption that we made in order to explain student's high score in a question

that was not properly taught to them, is similar to the observation that Schuhen (2010) has made about the important effect that mass media have on shaping students' perceptions about the economic crisis.

In our attempt to explain Greek students' results in these particular questions and compare them to the norming sample of the TEL, we should bear in mind that a) in five questions out of this list, the percentage of correct answers is considerably higher than the mean score of Greek students and b) while the mean score of Greek students is lower than the mean score of the norming sample of the TEL, the percentage of correct answers in each of these five questions is higher than the percentage of correct answers in the corresponding questions in the norming sample of the TEL. Using the Z Test of statistical significance researchers proved that the hypothesis that students performed better in the questions concerning deficit (Z-Ratio 4.306) and per capita income (Z-Ratio 3.132) than those of the norming sample of the TEL can be accepted at the alpha level .001. Furthermore the hypothesis that students did better than those of the norming sample in the questions concerning unemployment and GDP can be accepted at the alpha level .01 and .05 respectively.

Subsequently we compared the performance of students that participated in the research, in the TEL questions that concerned the crisis, to their performance in the rest of the TEL questions. Students mean score in the questions concerning the crisis was 71% while their mean score in the rest of the questions was 51.3%. Using the t-test we made the hypothesis H0 that there was no difference between the mean scores in the two sets of questions, against the hypothesis H1 that the students' mean score in the questions concerning the crisis was higher. As this was a one-tailed test ($t=2.13$ and $p=0.021$), at the level of 5% statistical significance we rejected the hypothesis H0, therefore we concluded that there is a statistically significant difference between the students' mean scores in these two different sets of questions ($p \leq 0,05$). Unfortunately researchers didn't have access to recent data (if any) concerning the achievement of other Greek students in tests of economic literacy. Additionally, as the sample of the study is rather small, it is not possible to check if the above mentioned tendency is a general one. However it offers a possible incentive to other researchers to estimate whether this trend concerns students in other European areas that are experiencing the results of the economic crisis.

Additionally to the TEL30 Greek students had to fill in an anonymous questionnaire, in which, among others, they were asked to identify their sources of knowledge and information which helped them answering the TEL30. Students' answers in this section of the questionnaire were proved to be of great interest.

In table 4 we present students' sources of knowledge and information about economics as they were identified by them. Most students (64%) mentioned that in order to take the test they were based on

knowledge acquired during the first class of SHS Economics course. However, a considerable percentage of students (36%) did not mention this course at all, although was mandatory and many of the concepts included in the TEL, were included in the curriculum of that course too. A possible explanation might be the fact that there was a considerable time gap between the period that the course was held and the moment that students took the test. The most common alternative students' source of economic knowledge and information was the internet, as 57.3% of them mentioned. Family and television were also two different but very important sources, as students participating in the survey stated (49%). Finally, a high percentage (42.6%) of students mentioned that discussing with friends was a source of knowledge and information that helped them answer the test questions. This particular finding, though rather surprising taking into consideration that the survey concerns adolescents, corresponds to the general feeling that the economic crisis has become the basic subject among Greeks. Additionally the fact that 62% of boys questioned, mentioned their group of friends as a source of economics knowledge, corresponds to an observation that Arendt (2008) also made, that boys are more interested in politics than girls.

	Women	Men	Total
1 st class Economics Course	62.5%	66.6%	64%
3 rd Class Economics Course	22.5%	23.8%	23%
Another course	5%	14.2%	8%
Family	50%	47.6%	49%
Friends	32.5%	62%	42.6%
Television	50%	47.6%	49%
Print media	15%	28.5%	20%
Internet	50%	71.4%	57.3%
Other sources of information	20%	4.7%	14.75%

Table 4: Sources of students' knowledge and information

Based on the survey results we can conclude that students of the two SHS that the survey was conducted are aware of specific economic concepts, although they had not been thoroughly taught to them. Therefore, there are strong indications that during the years after the beginning of the crisis, students have acquired economic knowledge through alternative sources, possibly via the overexposure of specific economic concepts in the mass media. However, as this is an exploratory study, further research is necessary in order to define whether students in other parts of Greece, or even in other European countries that are experiencing the results of the economic crisis, have a similar performance in corresponding tests of economic literacy.

4 Further discussion

Nowadays, one of the priorities for economics teachers should be to specify in which ways they should

take advantage of students' experiential-empirical knowledge of economic concepts and of their possible extra interest in economics. Matsagouras (2002) states that a basic dilemma that curriculum designers are facing, is whether school knowledge should be based on scientific, on experiential-empirical knowledge or on a combination of these two. Furthermore he presents the approach of the reconstruction of experiential-empirical knowledge. According to this approach, school, should be aiming in the gradual reconstruction of students' experiential-empirical knowledge, through teachers' intervention, which should be based on the scientific knowledge. The final goal of this approach is the 'scientification' of students' experiential-empirical knowledge. The researchers argue that, in this case, students have already acquired important experiential-empirical knowledge. Subsequently, the observation by Schatz & Götz (2004), reported by Arendt (2008/09), that adolescents show great interest in topics that are associated with their experiences from the "real world", is really important. She concludes that "young people demand from informational content – a better fit with existing cognitive structures and needs" (p. 60).

Therefore, an intriguing question is how economics teachers can take advantage of students' experiential-empirical knowledge. Due to the fact that the majority of Greek SHS students, in the last class of SHS, are not going to attend an Economics course, a possible way of raising economic literacy is "to identify and evaluate the scope and accuracy of the economic content included in the standards from the disciplines most closely related to economics at the K-12 level" (Buckles & Watts 1998, p. 158), in order to design interdisciplinary interventions (Fogarty 1991; Davis 2009). It is important to be mentioned that as Buckles & Watts (1998) argue, students that are taught economic concepts only within the limits of another course, might have a partial understanding of them and that is why researchers aimed at the same time to minimize this possibility. Based on the fact that 82.25% of students answered correctly the TEL30 question about unemployment, researchers decided to teach this concept, using the approach of the reconstruction of experiential-empirical knowledge. This effort took place at the SHS of Pastra, one of the schools that the research was conducted, during the third class of SHS Sociology course, as unemployment is part of its curriculum. Students in general, were interested in the subject, willing to participate and to gain a deeper understanding of this social phenomenon.

5 Conclusion

During the last two years of heavy economic recession, the majority of Greeks are experiencing major effects in their personal life, due to the economic crisis. At the same time everyday life in Greece has changed and so did people's perception and attitude towards economics and politics. Furthermore economic concepts apart from being a major topic in the mass media, are dominating

discussions among people of different age. SHS students, as a vivid part of our society, wouldn't be possible not to be affected by the unprecedented circumstances that our country is dealing with. The findings of the previously presented survey report that there are indications that students' knowledge of economic concepts concerning the crisis is at a very satisfactory level, although these concepts often are not even a part of SHS curriculum. Students' mean score in questions concerning the crisis was 71%, while it was only 51.3% in the rest of the questions of the TEL. Therefore, according to the results of this specific research, the impact of teaching economics at school is limited, compared to the impact of alternative sources of economics knowledge. As depicted by the answers that students that participated in the survey gave us, important alternative sources of economics knowledge and information are internet, television, family and peer groups. Conclusively, this exploratory study provides an incentive for economics teachers to elaborate: a) on whether economics courses at school offer to students the adequate knowledge in order to confront the demanding needs of modern society and b) on how teaching economics at school can become more efficient. However, due to the fact that the students' sample is rather small, further research is necessary in order to have more accurate outcomes.

Simultaneously as school knowledge should take advantage of and reconstruct experiential-empirical knowledge, this is a great opportunity for economics teachers to help students better understand or correct any possible students' misconception about economic concepts. Finally, the evolution of the economic crisis revealed that, more than ever, one of the basic school's aims should be to create democratic citizens that will be able to control political and economic authorities. Under this perspective the role of Economics teacher in secondary education can be critical.

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Taking into Account Knowledge Rerrepresentations about the Crisis, Uncertainty and Risk in Teaching Economics: A Comparative Study of European Students in Economics Programmes

Keywords:

social representations, knowledge representation system, relation to knowledge, economic uncertainty, crisis

Drawing on work conducted on the use of the analysis of social representations in a school context and on the management of relationships with knowledge about socially acute economic issues, a medium-term survey (2000 to 2009) was conducted in several European countries of students who were at the end of the cycle in their economics programmes at lycée, or secondary school. The study examined the students' system of knowledge representations of "economic uncertainty and risk". The aim was to identify scientific, academic and social elements of a possible representation in this domain. The analysis will focus on a comparison between Italian and French students; it will seek to identify constants and changes, to speculate on their causes and effects, and to suggest instructional strategies that may have an impact on potential obstacles and supports for academic and civic learning.

1 Introduction

Comparative studies have been conducted on the European system of economic studies at the secondary school level and the changes in it, in particular comparing France and Italy (Legardez, Valente 2009; Legardez, Valente, Jeziorski 2010). Research has also been conducted on the teaching of economic subjects in school education, such as money, work and unemployment, and on many other socially acute questions (Legardez & Simonneau 2006, 2011) that are less specific to economics, such as globalization (Legardez et al. 2009) and sustainable development¹. These studies were conducted from the perspective of a partial specification of the process of didactic transposition (Chevallard 1991) and with respect to knowledge relationships (Legardez 2004b), in particular the relationship between school knowledge and social knowledge; the latter was studied using a methodology borrowed from the structural theory of social representations (Legardez 2004a).

A more recent study focused on *economic*

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uncertainty in the social representations of European students who were attending the last year of secondary school (economics or management studies) and who were thus relatively specialized in economics disciplines. The survey was conducted in three different times and in several European countries (France, Italy, Sweden, Denmark, Germany, Greece, Portugal), in the years 2000, 2004 and 2009. Our presentation focuses on the results observed in France and Italy in 2009 in comparison with the results of the earlier surveys conducted in 2004 and 2000. This diachronic research was conducted from a didactic perspective, to identify elements of a possible social representation that may contain obstacles to or supports for the process of teaching and learning. The goal is therefore to verify the existence of social representation(s) and/or a system of knowledge-representation(s) on the topic of economic uncertainty that would be illuminating in instructional situations in the secondary school.

During the first phase, in 2000, research was conducted at the initiative of the AEEE². Its aim was to study what was meant by *economic uncertainty and risk*³ for students in several European countries (France, Italy, Sweden and Denmark) and to derive insights for the teaching of economics (Legardez, Valente 2003). A second phase of the research aimed to reiterate the international comparisons, with the questionnaire administered in 2004 in five European countries that had been surveyed the first time (Germany, France, Italy, Greece, Portugal). In 2009, the investigation focused on the two countries at the origin of the research, France and Italy, in an effort to understand the constants and the changes more deeply. The aim was to determine the elements of continuity and change among the young students surveyed, in relation to the different times and places and taking into account the diversity of the contexts.

2 Theoretical problem: how can social representations be used to develop didactic strategies?

2.1 Social representations and social learning

This study made use on the one hand of the theory of social representations (Abric 1994; Farr, Moscovici 1984; Flament 1987; Jodelet 1989; Moscovici 1961; Vergès 1994, 2001) and on the other of the analysis of "systems of knowledge representation in educational settings" (Legardez 2004a) in order to make the *prior knowledge* for learning at school a subject of diagnostic assessment. Legardez (2004a) describes this *prior knowledge* as a system of knowledge representations that consists of academic knowledge acquired in lessons prior to learning a particular socially acute question, on the one hand, and social representations constructed outside of the school, on the other.

Since the book by Moscovici (1961, *Psycho-analysis, son image and son public*), the study of social representations in science has undergone great change. Today, the concept of social representations is used not only in social psychology but also in other disciplines. Many researchers emphasize the relevance of the theory of social representations in research in the educational sciences, in particular in didactics (Beitone, Legardez 1997; Garnier, Rouquette 2000; Garnier, Sauvé 1998-1999; Gilly 1994; Legardez 2004a). As is pointed out by Garnier and Sauvé (1998-1999), as a process of decoding reality that guides action, an understanding of social representations can help to better identify the dynamics governing people's behaviour and thus to propose the most appropriate instructional strategies.

The social representation is a form of knowledge that allows us to capture and interpret the world and our relationship to the world. More precisely, the social representation can be seen as "a form of socially elaborated and shared knowledge that has a practical aim and is concurrent with the construction of a common reality by a social group" (Jodelet 1989). It is a form of natural, naive or everyday knowledge, an organized set of cognitions (opinions, beliefs, attitudes, images, etc.) that does not amount to scientific knowledge.

According to the structural approach to social representations (Abric 1994; Flament 1987), every social representation is structured around a central core that gives the representation its meaning and coherence. The core is the most stable element of the representation, because it is the most resistant to change and persists amidst contexts that are moving and evolving. A social representation can be transformed only when the core is changed. According to Abric (1994), the identification of the core plays a crucial role in the comparative analysis of social representations, because for two representations to be different, they must in fact be organized around two different central cores. As a result, it is not enough to simply identify the content

of the representation. The way the components are organized also has to be considered. Two different representations may contain the same elements, but can never be organized the same way. In other words, two representations defined by the same content can be radically different from each other when the organization of these elements, and hence the centrality of certain of the elements, is different.

Hence, based on the structural approach to social representations, our study relates more specifically to identifying the elements that may belong to the core of a social representation of economic uncertainty.

This is a didactic problematic; it fits in with the relationships of various kinds of knowledge (Chevallard 1991) in teaching and learning situations. In the context of *managing relationships to knowledge*, the teacher helps the students to construct their knowledge by working on the social knowledge *imported* into the classroom in order to facilitate the learning of academic knowledge (the purpose of academic learning) and by preparing the *re-exporting* (conversion) of some of the learned knowledge into social knowledge (the purpose of civic education) (Legardez 2004a, 2004b).

2.2 Economic lessons and socially acute questions

Recent years have seen the appearance in France of didactic work grouped under the heading of what is called *Socially Acute Questions*. These questions have now been classically defined by Legardez and Simonneaux (2011).

"A '(doubly) socially acute question' is a question that takes (or is made to take) an academic form and has the following characteristics:

- It is acute *within the society*: an issue like this calls into question the social practices of the educational actors (inside and outside the institution) and refers to their social representations; it is considered important by society (overall or in one of its components) and provokes debate (from conflict to disputes); it is often the subject of media coverage so that most of those in the school setting are aware of it. Its social production in the society thus makes it 'acute' in an initial sense.

- It is acute *in the reference knowledge*: there are debates (controversies) among specialists in the discipline or among experts in the professional field. In most disciplinary knowledge that refers to the social sciences and humanities (and in some areas of the so-called exact sciences), several paradigms are often competing. Furthermore, the references also frequently need to be sought in social, cultural, or political practices, and are also subject to debate (often polemics), out of which emerge some of the explicit or implicit references in the academic knowledge. The social production of the question in a scientific or professional milieu and in social, political and cultural movements thus renders it acute in a second sense.

- It is acute in the academic knowledge: a question is all the more 'potentially acute with respect to academic knowledge when it is doubly acute in the two other levels of knowledge'. (Legardez & Simonneaux 2011, 21-22).

Regarding the scope of subjects taught in economics, this problem is partly specific, especially as it relates to an area where most of the issues taught are socially acute (Legardez & Simonneaux 2006). When the knowledge to be taught consists of social, economic, legal and political topics, then the students are loaded up with fragments of knowledge of different origins — experiences, stereotypes, myths, ideologies — and this social knowledge often interferes with academic knowledge, to such an extent as to make learning difficult. This socially acute academic knowledge interferes with the social practices of the students and teachers, and thus demands special attention (Legardez & Simonneaux 2006).

It would be advisable that teachers take into account students' prior knowledge to build teaching strategies that are consistent and specific to the contexts, while trying to avoid the obstacles identified in this prior knowledge and taking advantage of the supports therein.

The results of a survey such as the one we carried out can provide valuable information for the teaching / learning of these topics, or to help ensure that the students, who have worked on these topics at school, can then transform this into social knowledge and civic behaviour.

3 Methodology

3.1 Tools

The survey was conducted by a written questionnaire⁴ (see Appendix) administered in the schools. The questionnaire consisted of an open question with spontaneous evocations and six questions with confirmations-rebuttals-explanations. Here we draw on the data from four questions. The first question (Q1), posed at the beginning of the questionnaire, focused on the students' spontaneous evocations activated by the term *economic uncertainty*; this is the fundamental question for this research tradition. The terms mentioned are classified by the frequency and ranking of occurrence so as to search for candidate elements for the core of a social representation (Vergès 2001). In question Q3, the students surveyed were asked to identify which domains they think concern risk, danger and uncertainty. In Q4, the students decided for which economic actors - from among those proposed in the list - uncertainty is absent or at a maximum (on a scale from 1 = absent to 5 = maximum). Q5 allowed them to reflect on the same actors, by asking them to choose how much information these actors have (1 = none to 5 = perfect)⁵.

In order to look for the existence of social representations of uncertainty among European youth, we used programmes for the analysis of evocations and of the similarity of questionnaires and

digital data from Pierre Verges (1994, 2001).

In order to enrich the results from the questionnaire, in 2001 semi-structured interviews were conducted in Italy and France by the researchers with small groups of former students who had responded to the questionnaire in 2000. These interviews took place in a school setting (for the students who were still in secondary school) or in university (for those who were out) — a broader school context, therefore, but not didactic and outside the presence of a teacher.

3.2 Population

Our analysis focuses on the responses of French and Italian students. The population of students who participated in the survey was composed as follows:

- In May 2000 (questionnaire): 129 students (from the economic and social sciences, economics-management, services vocational lycées - LPTs) in France; and of 200 students in Italy (business technical institutes - ITCs).

- In April 2001 (interviews): 3 groups of 10 students in Italy (in university or a specialist institute); 1 group of 10 students in France (last year of economics and social science).

- In May 2004 (questionnaire): 206 students aged 16 to 18 in France ("SES" [social and economic sciences], economics-management, services vocational lycées - LPTs); 111 students (vocational lycée).

- In February 2009 (questionnaire): 235 students (SES, economics-management, services vocational lycées - LPTs) in France; 241 in Italy (business technical institutes - ITCs).

The diversity of the student populations assumes that precautions in usage have been taken in particular concerning the conditions (not fully under the control of the researchers) for filling in the questionnaires, translation problems and student characteristics: age groups, level of studies, etc., which are not exactly the same for the different education systems in the countries selected⁶.

4 Main results

4.1 Overall results for 2009

4.1.1 Spontaneous evocations

First, we seek to identify the elements that could be part of a possible social representation of *economic uncertainty* in the *school context*.

The responses of the European students to the question of evocation showed that in 2009 *economic uncertainty* primarily evoked the crisis, unemployment, inflation and the stock market, both in France and Italy. The figures (1 and 2) below show the similarities and differences in rank and frequency of the terms mentioned most often in France and Italy. The Italians seemed to be more responsive to inflation and slightly more to unemployment, and the French to the crisis⁷.

Evocation	Rank	Frequency %
Unemployment	2.7	58
Inflation	3.4	42
Crisis	2.3	30
Economic crisis	1.7	26
Stock market	3.3	19

Figure 1: Evocations of Italian students

Evocation	Rank	Frequency %
Unemployment	3.2	43
Crisis	2.1	34
Economic crisis	1.9	25
Inflation	4.0	20
Stock market	4.0	19

Figure 2: Evocations of French students

4.1.2 Domains of uncertainty and risk

Question Q3 proposes that the students distinguish uncertainty from risk, by linking the items proposed to these two domains. By observing the most common links, we can infer their perceptions of the two domains. The 2009 results (Figure 3) show a fairly clear perception of two distinct domains of uncertainty and risk. They associate risk with investment, business creation, business management, and the financial markets, and uncertainty with economic policy, growth, GDP, income and work.

Country	Risk		Uncertainty	
	Italy	France	Italy	France
	%			
Investment	78	70	14	21
Business creation	68	66	21	20
Business management	55	48	29	29
Financial markets	55	46	30	30
Economic policy	19	29	51	46
Growth	7	14	49	49
GDP	23	22	51	54
Income	22	22	50	54
Work	19	25	53	52

Figure 3: Perceptions of risk and of uncertainty

4.1.3 The actors in the face of uncertainty

With regard to the relationship of the actors to uncertainty and information, an analysis of the answers to Q4 and Q5 in 2009 (Figures 4 and 5) shows that the students distinguish two categories of economic actors that are clearly opposed: on the one hand, *big* actors that seem distant from individuals: multinational corporations, insurance firms, the hypermarkets, etc.; and on the other, small actors that seem close to individuals: employees, households, SMEs and small firms. According to the students, the degree of uncertainty affecting the economic actors is low for the *big* and large for the

small, because the *big* have a lot of information, unlike the “small”. It is also worth noting that uncertainty strongly affects governments — for more than 45% of the students in both countries — even though they have a lot of information. The European Union also has good information according to the students, but for 40% of the French, it still has a lot of uncertainty. A noteworthy exception is that in 2009 the results for banks and employees are similar: more than 50% of students in both countries believe that they have a lot of uncertainty (news effect), even if they also have a lot of information.

ITEM	Absence of uncertainty		Maximum uncertainty	
	France	Italy	France	Italy
	%			
Multinationals	58	42	18	20
Hypermarkets	54	51	14	12
Cooperatives	44	39	24	25
Insurance firms	45	33	24	20
Small businesses	42	31	47	52
SMEs	29	22	30	56
Households	32	20	38	55
European Union	37	39	40	18
Government	38	26	47	49
Banks	20	23	58	52
Employees	23	14	52	63

Figure 4: Perception of actors with respect to uncertainty

ITEM	Absence of information		Maximum information	
	France	Italy	France	Italy
Multinationals	23	13	44	58
SMEs	41	54	18	10
Cooperatives	58	40	16	14
Banks	22	11	55	67
Small businesses	66	72	18	6
Hypermarkets	30	34	32	25
Insurance firms	24	18	38	37
Government	24	12	65	70
Households	59	62	20	14
Employees	56	68	21	11
European Union	19	39	61	74

Figure 5: Perception of actors with respect to information

4.2 Comparison of results for 2009 with those for 2000 and 2004

The results for 2009 compared with those for 2000 and 2004 show that there is great stability in the students' evocations, but there are also context effects as well as cultural and political effects that characterize the two countries. We present a few qualifications on the comparative perspective in the following paragraphs.

4.2.1 Crisis

Figure 6 below shows the position occupied by the term *crisis* in 2000, 2004 and 2009. Note that while evocations of the crisis were already prominent in the past, its impact on the students' responses was significantly greater in 2009, both in terms of frequency (with 65% for French and 64% for

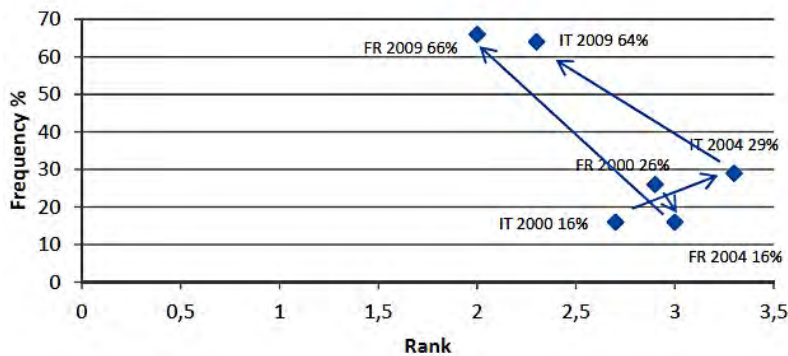


Figure 6: Comparative evocations of the crisis by French and Italian students in 2000, 2004, 2009

Italy) and rank (close to 2 in both countries). This leads us to suggest that the young Europeans surveyed evoked the crisis first in 2009 to a much greater extent than in 2000 and 2004.

4.2.2 Unemployment

There is a second polarization around unemployment, a term that remains one of the most frequent evocations of young French and Italian students. Note, however, a clear difference between the two countries: the problem of unemployment creates uncertainty for all the students surveyed, but especially for the Italians (its frequency is 15 points higher and its rank is closer to 0.5). We can still see (Figure 7 below) divergent trends between France and Italy: in 2009, the unemployment problem is felt most strongly in Italy, while the opposite was true in 2000, which also corresponds to changes in the unemployment rates in both countries.

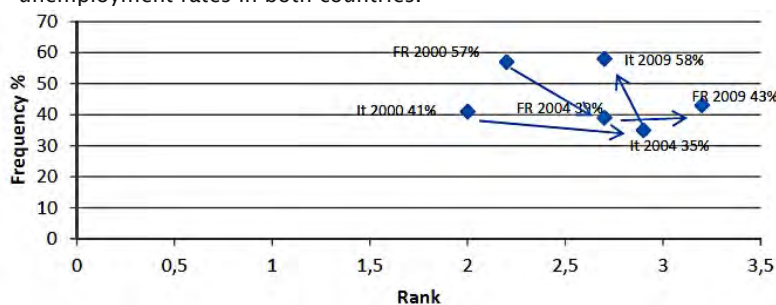


Figure 7: Comparative evocations of unemployment by French and Italian students in 2000, 2004, 2009

4.2.3 Inflation

The third most frequently selected term among the evocations is inflation. Taking into account the results of our three surveys (see Figure 8 below), we note that the evocations are consistently more frequent in Italy than in France (16 points more in Italy in 2000, 26 in 2004, and 22 in 2009). We are therefore seeing the consequences of a probable context effect.

It can be hypothesized that the context effect depends on the difference in inflation rates, which

continue to be higher in Italy than in France, as the introduction of the euro has had a greater impact on prices, given the absence of government controls. In addition, the Italians have a social representation of inflation as one of the economy's leading illnesses, out of a memory of the 1980s (when inflation exceeded 20%). It still represents a trauma even for young people who were not even born at that time.

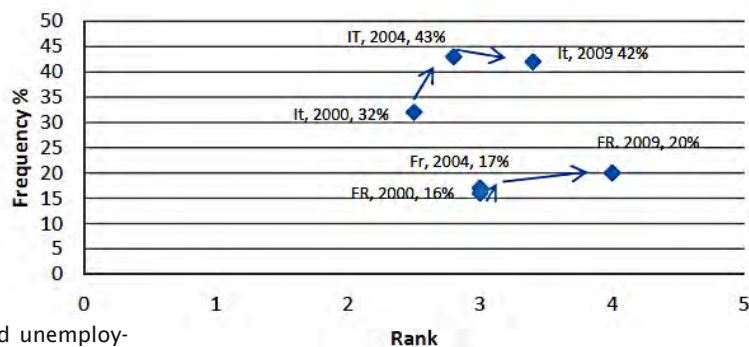


Figure 8: Comparative evocations of inflation by French and Italian students in 2000, 2004, 2009

4.2.4 Uncertainty, risk and the economic actors

We already pointed out that in 2000 and 2004 risk was limited to the management of business and the financial markets. Interviews clarified that young Europeans assimilated manager risk-takers to small entrepreneurs and thought the big had the resources to avoid more risk.

Concerning the relationship of the actors to uncertainty and to information, the data for 2009 generally confirm that for 2000 and 2004. During the interviews, the students questioned were able to clarify that the big were less subject to uncertainty because they had more resources and they benefitted from better information, but on the other hand they were subject to rapid changes in the economy (globalization), which heightened their uncertainty.

4.3 Some comparisons with the initial results of the 2012 survey in Italy

In May 2012, the questionnaire on economic uncertainty was once again given out in a school context to 85 Italian students of the same age and same grade as the previous surveys⁸. Our research aims to analyze whether the elements of stability in the students' spontaneous evocations that existed in the previous surveys are still present, thereby confirming continuity with the past, or whether new impacts related to news events and / or the socio-

political context are calling these elements into question. The hypothesis could be made that changes on the scale of the financial crisis followed by the current economic crisis could have had an impact on the social representations of the students.

The responses of the Italian students to the evocation question showed that in 2012 *economic uncertainty* still evokes *unemployment* (49.4%), *crisis* (34.1%), *inflation* (22.4%) and the *stock market* (10.6%). The table below shows the similarities and differences in frequencies for the terms most often mentioned in Italy compared to 2009.

At first glance, one might think that the young people are less responsive to unemployment and the crisis, and even a little less to inflation and the stock market compared to the evocations of 2009. We then sought to understand what positions the terms evoked occupy relative to the others that are less central in the students' representations.

In addition to a relative decrease in the percentage of evocations with respect to the terms that political context are calling these elements into question. The hypothesis could be made that changes on the scale of the financial crisis followed by the current economic crisis could have had an impact on the social representations of the students. The responses of the Italian students to the evocation question showed that in 2012 economic uncertainty still evokes unemployment (49.4%), crisis (34.1%), inflation (22.4%) and the stock market (10.6%). The table below shows the similarities and differences in frequencies for the terms most often mentioned in Italy compared to 2009. At first glance, one might think that the young people are less responsive to unemployment and the crisis, and even a little less to inflation and the stock market compared to the evocations of 2009. We then sought to understand what positions the terms evoked occupy relative to the others that are less central in the students' representations. In addition to a relative decrease in the percentage of evocations with respect to the terms that have evoked stability since 2000 (the beginning of our research), it is interesting to see that the new terms reinforce the old key words and that it is perhaps necessary to view these word clouds gathered around them as elements that would render the representations of the youth around the four key terms even more stable. This could be considered a somewhat different reading of the results, but it could also lead to an understanding of other effects, such as the effect of current events or the effect of the socio-political context, which probably influenced the evocation of the terms mentioned.

Evocations	Frequency % -2012	Frequency % - 2009
Unemployment	49.4	58
Crisis	34.1	64
Inflation	22.4	42
Stock exchange	10.6	19

Figure 9: Stability of effects – Italy 2012

We present some examples of these effects in the tables below.



unemployment	49.4	63.5	spread	22.4	69.4
temporary job	14.1		Government,	16.5	
crisis	34.1		national debt	12.9	
inflation	22.4		taxation	4.7	
euro	5.9		national budget	2.4	
money	9.4		fiscal pressure	3.5	
devaluation	2.4		tax evasion	2.4	
			bond	4.8	

Figure 10a and 10b: Evocations (%) of uncertainty – Italy 2012

For example, if we look at the two terms *unemployment* and *temporary job*, together they represent 63.5% of evocations. Lack of work then appears as the central problem for the young Italians surveyed.

In 2012, the term *spread* was mentioned by 22.4% of those surveyed, *i.e.* the same level as inflation. In this case, it is probably the effect of current events that can be identified among the young Italians, as the euro crisis has hit Italy hard. If we add the words *euro* (5.9%), *money* (9.4%) and *devaluation* (2.4%) to *crisis* (34.1%), evocations that reflect the pressure of current events take on great importance.

Again, the presence of key terms such as *government*, *national debt*, *taxation*, *national budget*, *fiscal pressure* and *tax evasion* points to the effects of a *socio-political context* that is very specific to Italy, a country in which the crisis is becoming a central event.

The last aspect we want to emphasize, while looking at the table below, is a current event effect of the financial crisis through the terms *stock exchange* (element of stability), which we can relate to *banks* (already weakly present in the past), *interest rate*, *risk*, *financial system*, *bank failure*, *financial and economic power*, *bond* and *central bank*. This group represents 54.1% of evocations, which tends to reinforce the relevance of the results of our survey.

The stability of the evocations over time on the one hand and the collateral effects on the other led us to hypothesize that the fundamental problem of economic uncertainty being perceived and discussed by the young Italians concerns their future — their difficulties, problems and fears, which are likely to be radicalized as the crisis deepens.

Figure 11: Evocations (%) of uncertainty – Italy 2012

Stock exchange	10.6	50.6
Banks	9.4	
Interest rate	8.2	
Risk	5.9	
Finance system	5.9	
Bank failure	4.7	
Financial power	3.5	
Central banks	2.4	

5 Discussion

In light of the results presented, we will discuss the existence of a genuine social representation of

uncertainty, and suggest certain ways to shed light on didactic strategies for teaching economics.

5.1 On the existence of a social representation of uncertainty

5.1.1 Social representation or knowledge representation system?

Based on the data for 2009, we can propose the hypothesis that there is no genuine autonomous social representation of *economic uncertainty*, but rather a *knowledge-representation system* (KRS) developed in an academic context through the stimulation of the questionnaire, which activates borrowings from elements of various types, including elements of a genuine social representation (SR) of the crisis ... along with “residues” of academic knowledge learned and then reinterpreted by the individuals. The high frequency of *crisis* in other surveys confirms that the representation of uncertainty is characterized structurally around the crisis, while giving it a negative connotation above all; what is observed therefore is the stability of a possible central core (Abric 1994).

Our hypothesis of the existence of elements of a social representation of the crisis in the knowledge representation system of *economic uncertainty* may be reinforced by the results of recent research on social representations of the economic crisis in four European countries (Galli et al. 2010) and social representations of the financial crisis of 2008 in France (Ernst-Vintila & Delouée & Rouquette 2010). In fact, the two research works identify unemployment as a potential element in the core of the social representation of the crisis. In addition, it seems that this is a transnational representation (Galli et al. 2010).

One might then re-raise the question of the domination of a KRS of economic uncertainty by the SRs of unemployment and the crisis and of the existence of a newly arising themata (Moscovici, Vignaux 1994; Markova 2000) — that is to say, of a system of binary oppositions (e.g. good / evil; certain / uncertain; complex / simple) located upstream of the social representation — concerning a more overall uncertainty related to the complexity of contemporary society (Beck 2001).

We also found that the most frequent evocations (crisis, unemployment, inflation, stock market) were strongly centered on the respondents themselves (that is, on their own relationships with actors and economic and social relations outside the school setting).

5.1.2 Effect of orthodox contexts?

It is also necessary to take into account the fact that the questionnaires were administered in a school setting, in the classroom with the teacher present, even though the survey was anonymous and the teachers simply played the role of an intermediary. We confirmed the presence of a school effect, which would amount to an *orthodox context*

effect (Moliner 1996) and would alter the effect of the social context. This configuration would tend to confirm that we are in the presence of a complex system of knowledge representations.

However, the interviews held in 2001 in the school — but without the presence of the class teacher — showed a strong *contamination* of a social representation of a future that is uncertain, which young people activated when they were stimulated by the questions about uncertainty and risk. As we have pointed out, the same terms emerged in the evocations in 2009, which would tend to confirm the domination of a reference SR over the general uncertainty omnipresent in society and thus not very sensitive to the orthodox context (Legardez 2004a).

5.2 Didactic questions for teaching economics in secondary school

5.2.1 Prior knowledge in economics and economic theory: concurrent knowledges?

The students seem to have highly structured social knowledge on these issues. Contrary to what might be suggested by the (relative) newness of the themes, the students in economics studies in the countries concerned have prior knowledge (in a school context) about “economic uncertainty and risk” that is quite strongly structured around *normalcy in market economics*⁹. The theme of uncertainty concerns economic life in general and assumes a particular importance in this historical period, which is characterized both by crisis and frequent changes in a number of areas, including for example changes in production, markets, consumption and technological innovation, but also by the influence of exogenous factors such as the environment and the structure of the population.

From the standpoint of economic theory, the categories *certainty* and *uncertainty* occupy a significant place in the scientific development of different economic paradigms. You can read a part of the production of economic thought through these two categories: the absence of uncertainty in the theory of the early neoclassical economists (Walras, Menger, Jevons) and the presence of the category *uncertainty* at different levels in the development of economic thought (Knight, Keynes, von Neumann, Lucas, Simon, Coase, etc.). From a didactic point of view, the question is then about the choice of the knowledge to offer in the teaching of economics and how to deal with the category of “uncertainty” as an object of study.

5.2.2 How to develop a teaching strategy on the theme of “economic uncertainty and risk”?

- Identify supports and obstacles

If it is decided to devote some attention to *uncertainty* as a subject of education, we can suggest some ideas for a possible teaching strategy that is derived from our hypotheses and which attempts to take into account theoretical elements and economic developments. It would be advisable first

that the teachers take into account students' prior knowledge so as to develop an appropriate didactic strategy and thereby hope to avoid the obstacles and take advantage of the supports that have been identified in this prior knowledge. Among the possible obstacles, the question of managing economic risks is a priori inconsistent with the dual certainty asserted by the students that, on the one hand, the future cannot be known, and on the other, that these risks are inherent to the market economy (risk is normal in the market), so nothing can really limit them. We can then suggest that this probable obstacle could be worked on prior to any other teaching / learning activity. It is also important to take into account the general obstacle of the difficult distancing from the learner's own experience, which is necessary in order to learn to accept autonomous, abstract economic knowledge. In the interviews, we have found a tendency among the students to understand economics starting from their own experience (or that of their relatives).

Teachers can also seek supports — for example, with regards to the belief that small businesses bear the brunt of economic risk, while the *big* can avoid it in part due to economic knowledge, or, as comes out in the interviews, with regards to the distinction between the realm of the certain, such as consumption (“*even without income people consume*”) and the uncertain (*crisis, unemployment, income*), which they could draw on for addressing the management of economic risks. It is also possible to try to modulate the degree of theorization of the lesson: either by limiting the recourse to theorization — without however doing away with a clear problematization of the issue — or by taking into account the specific obstacles and supports in each theory. For example, one might think that the radical uncertainty of Keynesianism is unlikely to encounter any obstacles (other than the abstraction of the theory), whereas the postulate of perfect information and of a world that is perfectly known by neoclassical economists might conflict with the prior knowledge of young Europeans.

- Organize discussion

Taking into account these supports and having identified the main obstacles that may thwart learning at school, the teacher can propose a reasoned debate that has been prepared in advance and is presented in class on the issues of economic uncertainty and risk (Legardez 2003), and thus try to collectively construct academic knowledge that is close to the scientific knowledge. One of the strategies with the greatest potential effectiveness would be to work on a particular obstacle that has been identified as *resistible* (in that it can be worked on) and “critical” (in that it blocks the acquisition of further knowledge), for example on ways to limit uncertainty among various economic actors.

A secondary objective for the teacher — but essential for the school (more specifically here for economics lessons) — would be assisting the students to then re-export this academic knowledge into their social knowledge so as to help develop

their civic personalities and therefore their choices (Legardez, Simonneaux 2006).

6 Conclusion

This survey, which was conducted from the perspective of a diachronic international comparison, should further take particular account of the specific curricular, pedagogic and didactic characteristics of education in economics (here French and Italian lycées; Legardez, Valente 2009) to study the influence of these context effects on the structuring and then the evolution of the students' knowledge representation systems, prior to and then after the process of teaching and learning. Work conducted on other socially acute issues and on reference knowledge — *globalization* (Legardez et al. 2009), *sustainable development* (Jeziorski 2012; Legardez, Simonneaux 2011) — has also been shown to be *potentially acute* in education (academic and non-academic) and requires somewhat specific didactic analysis. These comparative analyses (over time, in relation to their territorial and socio-cultural contexts and situated in their hierarchical school system) could allow a more detailed knowledge of the didactic variables involved, and would therefore better inform instructional strategies¹⁰. Experimentation and a variety of convergent and / or complementary strategic studies would probably contribute to equipping the teachers in the concerned disciplines. Thus recent studies advocate the instruction process involved in research (Chevallard & Ladage 2010), while others argue for classroom debate on socially acute questions (Giral, Legardez 2011; Legardez 2003; Simonneaux 2006) — these are new strategies that are alien to traditional forms of schooling (Vincent 1994) and could contribute to developing new forms of schooling.

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Endnotes

¹ ANR Research "Education in sustainable development; supports and obstacles" (2009-2012).

² AEEE (Association of European Economics Education). This survey was conducted on the occasion of the XIII Conference held at Milan's Bocconi University in 2000 on the theme of uncertainty and risk.

³ In everyday language, the terms risk and uncertainty are generally defined as the following: uncertainty can be defined as something which is unknown, doubtful, and therefore undecidable; in economic life, uncertainty is imposed to actors. Risk can be considered as a more or less probable danger, therefore calculable or measurable (including calculations of probabilities); in economic life, the risk can be chosen and assessable.

⁴ In 2000, the questionnaire was finalized in a working group coordinated by Alain Legardez, with Pierre Vergès, Yannick Kérignard and Doris Valente

⁵ Programmes: Simi2003, Avril2004, Evoc2000.

⁶ There are plans for a new step in this longitudinal and comparative research. The results of the pre-survey in Italy are discussed later (3.3).

⁷ Example of reading: the term "unemployment" is cited by 58% of the Italian students. The average rank of appearance of this term in the list of evocations is 2.7.

⁸ We present some of the results obtained, while noting that the analysis of the data has not been completed.

⁹ The definitions given by the students are close to common definitions (1.1)

¹⁰ Thus a new survey is planned, which is aimed at verifying the stability of the KRS and assessing the influence of the new context effects: the euro crisis and Europe, the financial markets, etc.

Appendix: Questions of the questionnaire analysed in this article

QUESTION 1: Which words or expressions come your mind when you think of « the uncertainty in Economics ». Please, write 4 words or expressions at least, no more than 10.

1.....

2.....

3.....

4.....

5.....

6.....

7.....

8.....

9.....

10.....

QUESTION 3 : Consider every item quoted below and say if, in your opinion, it is referable to the « field of risk, of chance or of uncertainty » Mark from 5 to 8 items (maximum 8) for every field. Choose the most important items. You can put a tick for every item in one or more columns.

FIELDS ITEMS	RISK	CHANCE	UNCERTAINTY
01- Investment			
02- Growth			
03- Saving			
04- International Trade			
05- Financial Market			
06- Economic Policy			
07- Labour			
08- Income			
09- Underground Economy			
10- Statistics			
11- GDP			
12- Balance of payments			
13- Domestic economy performance			
14- Consumption			
15- Company management			
16- Production			
17- Trade			
18- The founding of a firm			

QUESTION 4: Which degree of uncertainty weighs heavily on the following national economy actors ? We ask you to put a tick, for each actor, in one of boxes in the graduated scale from 1 to 5

1 = Absence of uncertainty =====> 5 = Maximun of uncertainty

Degree of uncertainty	Absence 1	2	3	4	Maximum 5
Actors					
Multinational companies					
Small and medium-size enterprises)					
Co-operatives					
Banks					
Small-scale retail trade					
Hypermarkets					
Insurances					
Government					
Municipalities					
Households					
Wage earners					
European Union					

QUESTION 5 : Now consider the same actors, as before. Which of them owns more information in order to reduce the uncertainty of their decisions ? We ask you to put a tick, for each actors, on a graduate scale.

1 = Absence of information =====> 5 = Perfect information

Degree of information	Absence 1	2	3	4	Complete 5
Actors					
Multinational companies					
Small and medium-size enterprises)					
Co-operatives					
Banks					
Small-scale retail trade					
Hypermarkets					
Insurances					
Government					
Municipalities					
Households					
Wage earners					
European Union					

Sandra Speer, Günther Seeber

Financial Understanding: A Phenomenographic Access to Students' Concepts of Credits

Keywords:

credit, financial education, financial literacy, phenomenography, variation theory

Financial education has become a more popular part of general education in schools. Different social and economic backgrounds as well as experiences influence the students' conceptualization of the same financial phenomenon. Therefore, phenomenography is an appropriate research strategy for investigating students' deeper understanding of financial core concepts. Our research concentrates on 'credit' as a central phenomenon. Thirteen focus groups made up of secondary school students and university students in Germany discussed varying examples of taking out a loan. Systematizing students' conceptualizations, the outcome space consists of four main categories: attitudes, needs, credit terms and calculation. On a deeper level we found further subcategories. The results of our explorative study can guide a chronology of teaching different concepts as well as further research.

1 Introduction

Financial education is considered to be important for the future financial well-being of every student and future citizen. Students and young people have their own money available to them and are exposed to strong marketing as well as choices among complex products. For this reason, various authors and organizations have proposed that students of secondary schools develop knowledge and understanding to enable appropriate judgments and decisions as well as skills for planning around future financial needs.

"Helping young people understand financial issues is important, as younger generations are likely to face ever-increasingly complex financial products and services. They are also more likely to have to bear more financial risks in adulthood than their parents, especially in saving, planning for retirement and covering their healthcare needs." (OECD 2012)

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The improvement of financial education should lead to benefits for the individual as well as for the society as a whole. On one hand, financial education should empower the individual to lead a life in financial wellbeing; and on the other hand, it should increase participation in financial markets with positive welfare effects as well as effects on politics concerning financial regulation (Cole & Shastry 2009, 3). It is not only the goals of individual financial education programs that are, of course, very diverse; broader national and international strategic goals also vary widely (Remmele et al. 2013).

Insofar as financial education is part of school curricula, the contents comprise money and transactions; planning and managing finances; risks; and the broader financial landscape. At one extreme, the individual student is supposed to understand the mechanisms of (financial) markets and have a deeper understanding of macroeconomics as well as political economics. At the other extreme, a very basic understanding of a single product or skills for daily money management is taught. For example, the US Treasury (2010) edited 'Financial Education Core Competencies', which are divided into the five areas of earning, spending, saving, borrowing, and protecting yourself. In 2004, the German Commerzbank edited a canon of financial education (Commerzbank Ideenlabor 2004). As potential target groups, schools as well as other stakeholders (such as organizations in adult education or banks) are mentioned. The topics are similar to the ones found in other standard frameworks. Most proposals on content compositions are centered around typical financial decisions on an individual and not on a social or systemic level (e.g. Commission of the European Communities 2007; Gibson 2009; OECD 2005, 2009).

All standards for financial education include credit as a central topic in financial understanding and part of money management, planning ahead and making financial choices. They are often organized around understanding money; money management; risks; capital resources; retirement planning; and borrowing money. Credit is always

included and indeed centrally relevant in financial education. Decisions on credit are representative for learning requirements on rational decisions in economic education: students should be able to analyze situations, evaluate alternative decisions and shape possible actions (Retzmann et al. 2010, 9). Our contribution focuses on credit from a phenomenographic perspective.

The main aim of this contribution is to study the qualitatively different ways in which credit appears to lay persons based on descriptions of their experience. 'Phenomenography is a research method adapted for mapping the qualitatively different ways in which people experience, conceptualise, perceive, and understand various aspects of, and phenomena in, the world around them' (Marton 1986,31). This is especially important because the students already bring their heterogeneous understanding of financial matters with them into the classroom. Different social and economic backgrounds as well as experiences influence the individuals' conceptualization of the same financial phenomenon. The qualitative variations or similarities of lay conceptions can be used within the teaching strategy and can guide further research as well as the future development of teaching material for further improving financial understanding, but they need to be studied first. This is the motivation for the following phenomenographic research.

The text is organized as follows: Section Two gives an overview of the recent empirical literature relevant for the understanding of lay concepts in the field of financial competencies. Section Three then explains the research design of the empirical study and describes the results. In Section Four we discuss the findings. Finally, in Part Five, we summarize the results and their consequences for future research questions.

2 Survey of the recent literature

With the increasing interest in financial literacy and financial education, a growing number of empirical studies has been published in the last decade. One research line concerns the measurement of financial literacy, which can be seen as a starting point for financial education, but also as being relevant for evaluating different teaching strategies. Other research relevant for the students' understanding of credit can be located in behavioural economics as well as in economic psychology. Previous phenomenographic studies will also be considered.

Financial literacy is about understanding financial markets and their mechanisms, but also about individual financial planning in the broader sense. No general agreement exists on the definition for financial literacy. A broad definition, which is widely accepted, is however the following:

"Financial literacy is knowledge and understanding of financial concepts, 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 2011,12-13).

Many studies that try to grasp financial literacy measure knowledge of specific financial products and instruments, e.g. for pension saving. Others look into the understanding of interest rates. Assessments of financial literacy are often based on factual knowledge and less on a deeper understanding. Some questions for the measurement of financial literacy get repeatedly asked in various surveys. For example, three financial literacy questions developed by Lusardi and Mitchell (2006) are used again in later surveys (e.g. Lusardi & Mitchell 2007; Van Rooji et al. 2007; Bucher-Koenen 2009). They measure both numeracy and financial knowledge. Thus the question regarding respondents' understanding of the interest rate was posed as follows: "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 €." (e.g. Bucher-Koenen 2009, 12) This kind of question gives only little information about the conceptual understanding that could guide financial behaviour because it is highly related to general numeracy. Other questions in surveys, such as asking for an estimation of the current inflation rate, do not elicit further understanding of the concept, but rather factual knowledge (e.g. Bankenverband 2012).

More recent research in behavioural economics focuses on biases - such as mental accounting; information overload; status quo bias; procrastination; regret; and loss aversion - that influence financial decisions and not only financial literacy as such (for an overview e.g. de Meza et al. 2008). In economic psychology, the relationships between mental accounting and mental budgeting are also studied (e.g. McHugh et al. 2011), and show that the relation between annual percentage rate and total costs is often misunderstood. But also roles of habits and risk aversion have been analyzed (e.g. Loibl et al. 2011) and underline the importance of habits for predicting financial behaviour. The bounded rationality perspective helps to contribute to the understanding of the relationship between knowledge and attitude, as in the analyses of savings, pensions and life insurance by Furnham and Goletto-Tankel (2002). They found that the understanding of those three financial issues is highly correlated and served as a significant predictor of the respondents' respective attitude regarding each.

Previous phenomenographic research has been applied to learning and also to economic phenomena. Pong (1998), Marton and Pong (2005), Pang and Marton (2003, 2005), and Pang et al. (2006) investigated respondents' understanding of 'price'. Davies et al. (2002), Davies and Lundholm (2008, 2012) studied conceptions of public goods, and Birke and Seeber (2012) looked into students'

understanding of wage differences. Pang (2010) as well as Aprea (2012) are so far the only researchers to have applied phenomenography in financial education settings. Pang conducted a learning study at the grade 12-level in Hong Kong and compared two groups. One group followed the lesson plan model and the other introduced the theory of variation (Pang & Marton 2003). The study was able to show that the learning study group outperformed the lesson study group. Additionally, this study gives insights into the outcome space for the phenomenon of financial investments. Concepts included were level of risk, liquidity, expected profitability of investments as well as more macro-related factors such as inflation rate or exchange rate fluctuations.

Recently, Aprea (2012) published the initial results on her study about students' understanding and awareness of the financial crisis. The author categorizes the conceptualizations along three intensities of awareness: awareness of the existence of the crisis; awareness of the background and sources of the crisis; and awareness of their own implication¹. However, this research is more closely related to an understanding of macro-economic factors and less to competency in personal finance. Another example of analyzing financial lay concepts is the work of Leiser and Drori (2005) on inflation. They asked four different groups, including high school students, about concepts on inflation and how those concepts are linked, developing the 'inflation understanding questionnaire' (IUQ). The scholars found that students' depth of understanding varied widely across groups, and they could also identify several misconceptions. Their research is not only important for understanding differences in the conceptions of inflation by different social groups but also for educational interventions.

Thus although there are lines of research with relevance for phenomenography in the field of financial education, however, there is still room for more work in this area.

3 Students' concepts of taking out a loan

3.1 Research design

The didactical impetus of phenomenographic research is the fostering of students' acquisition of domain-specific concepts by reconstructing their everyday conceptualizations in school lessons (Birke, Seeber 2011, 49). Students recognize their own concepts, reflect upon them, and take a step forward to improved domain-specific expertise. In traditional phenomenographic interviews on price (e.g. Pong 1998; Pang & Marton 2005) or wages (Birke & Seeber 2012), the relevant variables in economic theory (e.g. supply and demand) and their coactions are clearly defined. A comparable clearly framed theoretical concept on decisions about loan taking does not exist. Therefore, we have to refer to the above-mentioned competence goal² of rational decision-making considering uncertainty. Students should be able to recognize the taking on credit as an opportunity to allow consumption today while

regarding budget restrictions, opportunity costs and potential risks concerning the ability to pay back the credit regularly in future. This leads to reflections about credit-costs and possible alternatives to loan taking, i.e. postponement or waiver of consumption.

We designed open questions on the phenomenon of taking on credit, with a particular focus on consumer credit. As in other phenomenographic research, no unambiguous answers exist. The reason is that phenomenographic research does not test knowledge but aims at getting a systematic picture of the students' reasoning. We intended to elicit qualitatively different ways of arguing when students reflect on whether someone should take out a loan or not. According to Davies and Lundholm (2012), in the social sciences – as opposed to the natural sciences – it makes sense to ask students for judgments and not only for explanations. The topic of credit in particular seems to be a good example of the intertwining of attitudinal judgments and economic reasoning.

The students had been divided into focus groups and were asked to discuss the following situations:

1. Katja, an apprentice/trainee³, replaces her old TV with a new flat screen at the price of 1.200 Euros. Because she does not have enough money available, she agrees to pay a consumer electronic retailer in instalments. What do you think?
2. Sinan, an apprentice/trainee, moves into a flat on his own for the first time. He buys a new cooker and agrees to pay a consumer electronic retailer in instalments. What do you think?
3. Alex wants to buy an iPhone and asks his buddy Oliver for the money. What do you think?
4. Olga wants to buy an iPhone, too. She overdraws her account. What do you think?
5. After finishing his initial vocational training, Sebastian wants to buy a BMW. He does not have enough money to afford it. He takes out a bank loan. What do you think?
6. After finishing an apprenticeship as a hairdresser, Bianca and her girl-friend take over a hairdresser's shop. They need more money than they have to finance the equipment. They take out a bank loan. What do you think?

Box 1: Focus Group Questions

The questions vary several factors relevant for students' conceptualizations and comprise three groups of two questions in each case. Questions 1 and 2 vary the credit objects (TV vs. fridge and cooker) in similar economic life situations (initial vocational training); questions 3 and 4 vary the creditor (bank vs. friend); and questions 5 and 6 vary the objects again (consumer good vs. capital equipment). The students were not aware of this composition and discussed the scenarios in order.

Typically, phenomenographic research is based either on interviews with single persons or on a focus group design with small groups of participants (e.g. Krueger/Casey 2008). In our setting, students were organized into focus groups of six to nine

participants and discussed all of these questions in about 30 minutes. The interviewers did not explicitly ask them to discuss normative as well as economic arguments, but stimulated the students to reflect on further explanations after having discussed one point of view.

	age group	Number of focus groups
school students	14-15 years old (grade 9)	2
school students	15-16 years old (grade 10)	3
university students	> 18 years old	8

Table 1: Focus Groups Conducted

In total, we conducted discussions with thirteen focus groups, or 89 students altogether. The sample of our first study was made up of 36 9th and 10th graders from a secondary school at the Campus School in Landau, Germany⁴. These students will leave school – depending on their performance and further learning aspirations – after completion of either 9th or 10th grade. The questions target the students' situation, i.e. to leave school and become an apprentice, or situations where they may have personal experience.

In a follow up study, 53 teacher trainees in the field of social sciences at the University of Koblenz-Landau discussed the same questions in groups of five to eight in order to be able to compare their conceptualizations with the results of the first interviews with secondary school students. The latter had no previous economic or financial education in school, whereas the teacher trainees had regularly attended up to two lessons on either business administration or microeconomics. The outcome space (see table 2) as a major finding of our research was initially generated by analyzing the data of the school students' answers, and it was replicated in the follow-up study.

The conversations were recorded and transcribed. The data was analyzed in the form of an iterative content analysis (e.g. Lamnek 2005). The authors coded the answers independently (intercoder reliability). Firstly, they identified respondents' different core arguments while discussing pros and cons of the presented cases. Secondly, they identified superordinated referential aspects in students' arguments. Afterwards the researchers discussed divergent results, and then developed a common outcome space. This analysis is an interpretive process, in which the researchers describe different ways of experiencing the phenomenon. The outcome is an identification of non-overlapping categories and subcategories which reflect various critical aspects of the phenomenon (credit).

3.2. Findings

After having iteratively analyzed the focus group interviews, we were able to distinguish four main non-overlapping referential elements of the outcome space: attitudes, needs, credit terms and calculations. The intentionally open question 'What do you think?' left room for economic-based as well as non-economic-based answers. Thus, one group of arguments concerns non-economic and moral

reasoning for accepting or refusing to take out a loan. The moral and emotional approval or disapproval of certain behaviour falls into this category. In the second category, the answers focus on preferences and the assumed (lack of) necessity of purchase. This category includes the alternative of saving and cheaper options (without calculating). Two subcategories have been distinguished here (see below). The third category focused on credit terms as contractual aspects, including relations to the creditor and awareness of interest rates, but less on other costs. The costs and benefits of different kinds of relationships between the creditor and the debtor are analyzed here. Formal agreements and institutions as well as private relationships and non-monetary costs, such as difficulties within a friendship, are included. The last category concerns calculating future income and expenses and consists of two subcategories. This category comprises not only the question of liquidity and budgeting (income in relation to expenses) (4A), but also includes risk assessments (4B), such as uncertainties in income generation or entrepreneurial risks.

Short Designation	Referential Aspect	Focus	Subcategories
1) Attitudes	The decision depends on <i>non-economic</i> arguments	Focused on <i>affective attitudes</i> and <i>emotions</i>	-
2) Needs	The decision questions the <i>needs</i>	Focused on <i>preferences</i> and the <i>necessity</i> of purchase including the option of <i>saving</i>	A Hierarchy of needs: needs get ranked and cheaper options are discussed (without calculating) B Saving: deferring consumption as handling needs
3) Credit Terms	The decision is related to <i>credit terms</i>	Focused on <i>contractual aspects</i> incl. relations to the creditor and awareness of interest rates	-
4) Calculation	The decision depends on <i>calculative</i> reflections	Focused on <i>future income</i> and <i>expenses</i>	A Budget (income and expenses): calculation focuses on planning present and future budget B Risks: calculation includes consideration of potential gains and losses

Table 2: Outcome Space

As explained above, we conducted the empirical research first with secondary school students and then with university students. The citations are indicated with 'S' for 'school student' and 'T' for 'teacher trainee'. The interviewer is marked as I.

Attitudes

The statements based on affective attitudes and general emotions cover a wide range, and most of

the students in both groups used this kind of reasoning to refuse the decision to take out a loan. Many answers were ethically driven. Students argued that taking on credit is 'ethically tolerable'; or, on the contrary, they stated that they would never do it. The attitudes towards credit could be clustered around 'money comes first' and the importance of having sound financing; or, alternatively, around 'money comes second', the latter following a hedonistic point of view. Not surprisingly, utterances in the sense of 'money comes first' were found much more often than the second group of arguments. A typical statement is:

T: "It is no good living beyond one's means."

Many students see saving as essential, as a general attitude and practice and less as special-purpose. Germany has traditionally a high ratio of savings. However, newer tendencies towards undersaving and overspending can be observed, particularly among young people (private bankruptcy is on the rise) (Bürgel 2012, 10).

Another group of attitudinal statements was related to the feeling the students might have paying back a line of credit in case of loss or technical innovations:

T 1: "Imagine you drive the car into the ground and would still have to pay for it" (question 5) and

T 2: "Imagine in one year there are newer technical features on the market and you would still have to pay for the old one." (question 4)

These reflections did not include any further thoughts on insurance or other economic aspects of credit decisions. The affective dimension was not weighed against a cognitive dimension.

A last group of arguments – in the context of question 3 – concerned the relationship between money and friendship, which was perceived as 'a critical combination':

S: "But I don't think I can ask my friend for 2 € or 50 € or 500 €! No, I do not want that anyway. I do not want his money. I do not want him to have to pay for me." (question 3)

Needs

The focus group discussions among both samples of students were very much centred on needs. Their arguments were related to reflections about luxury goods versus more fundamental needs and followed the logic of Maslow's hierarchy of needs. In a second instance, the search for alternative options provided a focus of discussions. The students distinguished between wants and needs and often suggested searching for cheaper alternatives than the proposed goods. They also had ideas for finding them, like buying a used stove on eBay.

T.: "Well, I find it simply unnecessary to buy a better TV while possessing one - only because it has a flat screen and is bigger. Watching TV is as good with an old one as with a new one." (question 1 - concept 2A)

T: "You don't have to satisfy every wish at once, you could save money and buy it later." (question 1 - concept 2B)

Here, the rationale for taking on credit is related to needs, specifically to the hierarchy of needs and

the logic that taking on credit could be more easily justified for basic needs than for luxury goods (2A).

Usually many alternatives exist for satisfying a need, and the analysis of those alternatives in relation to the determined needs also fall into this category. But after identifying a certain need, savings and thereby deferred consumption were also identified as alternatives to immediate purchase (2B). Within the needs discussion the concept of opportunity costs was singularly applied:

T 1: "When I need (...) then I will not have any more money to spend for other items", and the opportunity costs of saving have also been taken into account:

T 2: "Perhaps I could do without something for a while, which would not hurt me, and thereby put something aside".

Credit Terms

Here, arguments were focused on the contractual aspects of taking out a loan. On the one hand, students mentioned the securities and guarantees a bank requires, the liability of continuous instalments as consequence of contracting with a bank, and the fact that they have to pay interest rates. Typically, this reasoning led to scepticism about raising a credit.

S: "(...) I would ask my mother to pay for a stove, if I want one, and then pay the instalments to my mother. You do not have to pay the instalments to the retailer."

I: "Why would you prefer that? Can you give reasons for that?"

S: "Yeah, if you go to the retailer -, then there are such interest rates -, then this is more expensive. If you ask your parents, then you can -, then it is cheaper for you." (question 2)

On the other hand, Question Three provoked answers referring to the special nature of friendship and to the credit conditions relevant to a bank contract. Looking at friendship itself, students argued with the importance of trust, the length of a friendship and its intensity as factors relevant for their willingness to ask a friend. The risk of losing her or him was described as part of the particular credit terms. The basic ideas were, first: that there is no legal duty to pay back a debt and the debtor could therefore be more willing to default on the payment; and, secondly, that it is an emotional burden to owe somebody money.

S 1: "[...] once you want to spend money, the friend will come and ask you to lend him this money (instead), and if you say no, then he will point to the fact that you bought an iPhone. So you cannot really have fun anymore."

S 2: "It is a risk for the friend, too. Perhaps the other one will simply cut loose. I mean the one who wants the iPhone." (question 3)

Sometimes Question Three led to a change of perspective and the students speculated about risk and their own willingness to loan money to another person. The interviewers then intervened and repeated the question. The statements given previously are not included in the outcome space of table 2.

Calculation

Calculation stands here for budgeting income and expenses, including credit payments in particular. In taking on credit, calculation always has a time component: The long-term commitment requires assumptions of future income. In an extended argument, students would refer to uncertainties and weigh their probability. Because they did not always mention time or uncertainty, the question for the authors was whether there were possible subcategories in the students' contributions. Typical answers within this category were:

S: "Well, it is clever to pay installments. She is still an apprentice and has to pay rent for her flat and similar exigencies, buying food and so on. And if she spends all the money at once (for the TV) nothing remains for living." (question 1)

The above focus is on liquidity in the current private budget. But is it qualitatively distinct from the following statement?

S: "You could set the installments to a real low level. Then you will merely feel them, the current costs." (question 1)

Both students refer to the installments. They are aware of the fact that installments do not consist of a single payment but lead to an enduring liability. In the first case, the student mentions other regular costs like the rent, and the second one speaks of "current" costs. Therefore we did not differentiate between present budgeting and future budgets (4A). We did however further distinguish answers referring to uncertainty of future income, including entrepreneurial risks, because of a qualitative difference between the development of potential scenarios (4B) and mere budgeting. As expected, the case of the future entrepreneur (hairdresser) provoked more reflections on the risk inherent to entrepreneurship than the other questions, although there too the risk of loss had been mentioned (see above). The entrepreneurial risk was clearly seen by students of the secondary school as well as university students. The risk of not generating enough income was underscored many times. Fear and weak entrepreneurial confidence might play a central role here. Risks were only mentioned once in answers to Question One and several times within Question Five. As the expression of an awareness of uncertainty, the students' ascertainment of the difference between secure employment and an insecure future were nevertheless noteworthy. Here are two examples:

S: "(...) I would not do this, because if he loses his job or something, then he will not be able to pay back the money anymore." (question 5)

S 1: "In this case I would more likely take on credit, because if it works well, then they are able to pay (...)"

S 2: "I think it is really risky, because there is a high risk when taking on credit. Because you never know whether it will work or not. There have been a lot of complete flops.

I: "What kind of flops?"

S 2: They took out a loan, started up a business, and then one day they had to declare insolvency." (question 6)

Others

As in other phenomenographic studies (e.g. Pang et al. 2006), not every utterance could be categorized. A very few sentences could simply not be interpreted at all and, as one might expect, others were meant to be funny and very much related to the products mentioned in the questions. Students sometimes simply drifted into side-conversations and some remarks were out of the scope of this study. Furthermore, within one focus group of university students, the discussion switched briefly onto the meta-level. They stressed the importance of the topic for teacher education and reflected on it from the perspective of future teachers.

Within Question Six, attitudes towards entrepreneurship in general played a large role. The students were often critical or underlined how courageous it is to start a business. More rarely, they remarked in a positive tone: "I think it is a good idea to be self-employed". Those utterances did not pertain to attitudes towards credit and are therefore also included in the category 'others'.

Misunderstandings

Some key terms seemed to be unclear or rather have been misunderstood. This is not surprising because the students did not have any prior financial education. For example, secondary school students said: 'If you cannot pay back the loan then you have debt'. Furthermore the concept of 'credit' was sometimes not taken into account at all: 'Either he can pay or he cannot pay.'

Several students argued that it would be better to take a loan for a private car than for entrepreneurial activities and investments. The students did not analyze and compare the income sides in both examples. Students also disliked paying by instalments because of smaller budget flexibility and preferred rather regularly setting aside a certain sum. First, the flexibility is not fundamentally different in those two alternatives; and secondly, they did not take the cost side into account. 'It is better to pay by instalments than to pay a huge amount at one moment' (T). The idea of building up savings is completely missing here.

In the context of consumer credit, students referred to so-called 'zero percent financing', which is heavily advertised, especially for electronic goods. Zero-percent-financing was not further discussed, and the understanding of this instrument remained sometimes unexplored. Other times misunderstandings were evident, as when students said that there would be 'no extra costs for the credit'. And concerning investment credit, one student said, "If there is a risk (entrepreneurial risk) of not being able to pay back, then do not take out a loan" (S). However, certain entrepreneurial investments are simply not feasible without a loan. Misunderstandings might partly be connected to missing knowledge about the financial landscape, but much more related to missing competencies in general economic thinking.

4 Discussion

Hierarchy of Concepts

Typically, teachers focus first on the simplest concept and then go on to the most complex one. But the structure of the outcome space above has to be discussed. The hierarchical order is a condition of quality concerning concepts that have been explored phenomenographically. But the principles of formation seem to be quite vague. Marton (1994, 4427) describes this formation in his basic article on phenomenography. - Referring to a text interpretation of students, he states: "By drawing on the logical relationships found between the different ways of understanding the text, a hierarchy was established between categories of description." Categories are logically related, e.g. described as inclusion or exclusion. Åkerlind (2005, 323) analyses the methods of phenomenography in detail and emphasizes this "hierarchy of inclusive relationships" according to Marton as a typical order.

With regard to the present outcome space: that students argued emotionally or on the basis of moral rules does not require further elaboration of pros and cons, nor deeper analysis of the situation presented. In this sense, this concept, hereafter abbreviated as "attitudes", is the simplest of all discovered perceptions. The discussion of "needs" typically includes attitudinal approaches to problems. An example of an inclusive relationship, for instance, would be citing a cheaper product with fewer features as an alternative.

Considering "credit terms" presumes a decision on needs. Students often referred to these terms after having considered the "needs". Because they had to judge particular situations, the discussion on credit terms depended, at least implicitly, on a determination of what constitutes a true need: Should someone endanger a friendship to buy an iPhone? Should someone pay interest rates in order to buy a TV? Finally, the calculation of income and expenses is on a higher level than the other concepts. It includes both the balancing of needs and the consideration of credit terms when calculating costs.

Nevertheless, the order between calculation and credit terms is quite difficult to determine. Whether to look first at the credit terms and then integrate them into the overall calculation; or to first get an overview on the budgetary situation and risks and then take credit terms into account: there are good arguments for both.

Quantitative Analysis of the Qualitative Data

Comparing the answers across questions gives the following picture (see appendix): in the example of consumer credit for a TV (question 1), students in each of the thirteen focus groups consistently referred to the hierarchy of needs and alternative options (2A) as well as to aspects of liquidity/budget (4A). In the second example, all of the focus groups included the hierarchy of needs and alternative options (2A). Concerning the last question involving

bank credit (question 6), aspects of liquidity/budget were always touched upon, whereas the concept of saving was never mentioned.

So far, no authors have explained the differences among sophistication levels with quantitative analysis of the qualitative data. Birke and Seeber (2012) could at least ascertain that their logically developed hierarchy was pretty much mirrored in the numbers. From the quantitative point of view, we can identify several hierarchies within the groups. Regarding calculative reflections, thoughts on liquidity were more prevalent than reflections on various risks. Those aspects also have an inner logic in the sense that each level requires an understanding of components that came before (Marton/Booth 1997). From the overall quantitatively qualitative perspective, we get a result which is different from the hierarchy constructed by this inner logic: students more often think first in terms of budget than primarily of needs. Credit terms and saving were taken into account as alternatives less often, and reflection on risks least of all.

concept	designation	rank
4A	budget/liquidity	1
2A	needs	2
3	credit terms	3
2B	saving	4
4B	risk	5

Table 3: Order of Concepts Ranked by Number of Use

However, this quantitative-qualitative analysis could be misleading in so far that it is very much influenced by the focus group setting. For further analysis, individual interviews would be required. Secondly, the given examples - as five questions relating to consumer credit and one question relating to an investment credit - also influence the quantity of utterances.

Differences between secondary school students and university students

The school students' and the university students' answers differed in the quantity of the concepts used as well as in the quality of the arguments. Both groups of students most often referred to arguments concerning future income and expenses (liquidity) (4A) as well as reflecting on the needs within the given situation (2A). Interestingly, the university students used more non-economic arguments (1) relative to the secondary school students. Aspects of the credit terms (3) were more important to the secondary school students. Saving (2B), risk evaluation (4B) and financial management competencies were of lesser importance to both groups of students.

concept	secondary school students	rank	university students	rank
1	37%	4	63%	3
2A	60%	2	77%	2
2B	23%	5	31%	5
3	50%	3	58%	4
4A	73%	1	87%	1
4B	13%	6	13%	6

Table 4: Quantity of concepts used

In more than 50% of the cases, the secondary school students' answers were related to one or two concepts, whereas the university students' answers were more complex. In most cases, they took three or more concepts into account. Differences in general education and to a lesser extent a difference in the level of financial knowledge might help to explain this.

No. of concepts mentioned per question	secondary school students	university students
1 concept	16,6%	4,2%
2 concepts	39,8%	16,7%
3 concepts	23,1%	35,5%
4 concepts	9,9%	33,4%
5 concepts	6,6%	8,3%
6 concepts	3,3%	0%
7 concepts	0%	2,1%
sum	100%	100%

Table 5: No. of concepts used per question

University students took a much wider array of alternative options into account. For example, they recognized leasing or renting a car as an alternative to buying a car. The university students showed strong qualitative differences especially within the concept 'calculation'; their reflections were much more elaborate. They included, e.g. the loss in value and considerations about the consequential costs of a fridge. The possibility of drawing up a written contract with a friend was overlooked by the secondary school students, whereas university students took civil law into account. The university students also underscored the financial management competencies and experiences with financial matters a creditor ideally should have; for example, T: "A creditor should have a good overview on the own financial situation, otherwise someone might easily end in a kind of 'debt trap", or T:"you need to know how to make a budget plan".

5 Outlook

None of the students interviewed mentioned any of their own past experience with taking on credit. The students seemed to have nearly no personal experience with credit so far. But first-hand experiences are not a necessary precondition for understanding and might even confuse the issue. Thus, differences between the two different groups of students cannot be explained by varying levels of experiences, but rather by the higher complexity with which one group grasps the phenomena. The examples of the iPhone and BMW provoked long discussions around those goods, but such discussions would not be easy to prevent even when using more neutral key terms such as a 'smart-phone', 'medium-sized car' and indicating price ranges. The entrepreneurship example of a hairdresser turned out to be suitable for secondary school students, but could also be varied for university students by giving an example of a business they could identify more with and imagine starting up themselves.

The depth of understanding varies across the groups, but especially between the university students and the secondary school students. Several misunderstandings could be identified. As in real-life situations, the focus group questions evoked both answers using economic reasoning and answers based on (emotional) attitudes. According to OECD (2012, 14) "[...] financial literacy involves skill in managing the emotional and psychological factors that influence financial decision-making". Thus, for teaching financial education it would appear to be very useful for students to become aware of their own varying levels of reasoning and also learn how their attitudes might influence subsequent behaviour.

Ideally, students come to develop content knowledge as well as transferable reasoning skills. The group of university students might have had prior training in general economics, so that they would be supposed to have better economic reasoning skills compared to the group of secondary school students. However, none of the students had participated in formal financial education. The empirical results nevertheless show a difference in the quality of reasoning between the secondary school students and the university students. The latter showed a qualitatively more economic way of thinking. However, the ratio of non-economic reasoning was relatively high and again demonstrates the need to differentiate between economic and moral reasoning. This is also consistent with exploratory findings from Birke/Seeber (2012), in which elder and more trained students included moral arguments into economic analysis.

The study was conducted on a small number of samples from one German secondary school and one German university, which definitely limits the extent to which results can be generalized. Many different variables can influence the beliefs and attitudes people hold, as well as their knowledge of and experience with types of credit. Further research and interviews seeking to understand the students' subjective experience with credit might diverge from the categories found. It may be possible that in other contexts and with students with different socio-economic backgrounds - especially in other countries - different views as well as personal experiences with credit in general and specific credit products may influence the number and type of categories in the outcome space. For this reason, we recommend extending the research within Germany as well as to culturally different settings. Future research should furthermore be extended by selecting different financial phenomena. Further research could broaden the scope of questions so that more influencing factors are included; credit is seen in different contexts; and the complexity of the topic increases. Macro-economic factors were, for example, not mentioned at all, either in the focus group questions or in the students' answers.

The above-described findings of our research led to an outcome space which reflects a system of students' perception of decisions regarding private credit. Such a system is valuable in a didactical

reconstruction of students' concepts in lessons on this topic as part of financial education. At the same time, it provides a basis for further application of variation theory as a special issue of reconstruction. "The variation theory emphasizes the way in which one learns to discern various entities and their varying features" (Pang 2010, 663). The combination of phenomenographic research findings with the assumptions of variation theory has been tested in several studies with good results (e.g. Pang, Marton 2003; 2005; Pang et al. 2006). In the present context, the variation of students' conceptualizations on credit decisions is one adequate means. However, further research is needed concerning the hierarchy as constructed from the inner logic and individual - as opposed to focus groups - elaboration.

The insights of this study can also be used as a starting point for teaching about credit, especially as they are constructed by applying the variation theory. It will help the teachers in providing information on how students understand the topic and how they develop more complex ways of thinking. The identified elements of the outcome space will help teachers in structuring the reflection and discussion on a conceptual level between the students. The teacher can better evaluate the students' conceptual understanding. Students' prior knowledge will become transparent and help to identify the point of departure for new learning processes.

Although the different subcategories of the outcome space are not that surprising, the discussions' intensity regarding attitudinal aspects of credits is remarkable and useful for learning arrangements. Domain-specific concepts of credit decisions are always rationality bound. Tasks in teaching this issue are to unfold students' attitudes and to separate the latter from objective reasons. Students get aware of their own moral pre-concepts. Through the variation of the different referential aspects (outcome space) the students' get a deeper understanding of the diverse factors which have to be considered altogether.

In our research, for example, the students did not always have a clear picture of total credit costs and this could be an important aspect for deepening understanding. Also misunderstandings have to be studied further and will help in teaching situations to distinguish between the conceptual misunderstandings and missing knowledge of the financial landscape. Additionally, this research can guide the development of teaching material for further improving financial understanding as well as guiding students in using the concepts. For example, costs and benefits of savings and credit could be analysed; or role plays, including comparisons of real life credit costs, could be developed.

The phenomenographic approach cannot substitute for, but rather complements students' performance assessments. Future research should triangulate data from different instruments, - such as from financial literacy assessment inventories mentioned above - in order to provide a fuller picture of students' learning processes and

understanding of financial education, thereby encouraging research-based teaching.

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Appendix:

Students' Viewpoints within Focus Group Discussions on Credit

S=secondary-school students; T=teacher trainees

Group	TV; consumer credit	Stove, fridge; consumer credit	I-phone; friend	I-phone; overdraft credit	BMW; bank credit	Hair-dresser; bank credit
S1	2A, 4A	2A, 4A	2A, 4A, 4B	1, 2B, 3, 4A	1, 2B, 4A	4A
S2	1, 2A, 2B, 3, 4A, 4B	2A, 3, 4A	1, 2A, 3, 4A, 4B	1, 2B, 3, 4A	2A, 4A	4A
S3	2A, 2B, 4A	2A	2A, 3	1, 3	2A, 2B, 4A	4A
S4	1, 2A, 4A	2A, 4A	1, 2A, 3	1, 3	2A, 4A	3, 4A
S5	1, 2A, 2B, 3, 4A	2A, 4A	1, 2A, 3, 4A	3	3, 4B	3, 4A
T1	1, 2A, 2B, 3, 4A	1, 2A, 4A	1, 2A, 4A	1, 2A, 2B, 3, 4A	2A, 4A	1, 2A, 4A
T2	1, 2A, 2B, 3, 4A	2A, 4A	1, 2A	1, 2A, 4A	2A, 3	1, 3, 4A, 4B
T3	1, 2A, 2B, 3, 4A	2A, 3, 4A	1, 3	2A, 2B, 3, 4A	1, 2A, 2B, 4A	3, 4A, 4B
T4	1, 2A, 4A, 4B	1, 2A, 2B, 3	1, 2A, 3	1, 2A, 3, 4A	2A	2B, 4A
T5	1, 2A, 3, 4A	2A, 4A	1, 2A, 2B	1, 3, 4A	2A, 2B, 3, 4A	4A
T6	2A, 3, 4A	1, 2A, 3	1, 2A, 3, 4A	1, 2A, 3	3, 4A	2A, 4A, 4B
T7	1, 2A, 2B, 3, 4A, 4B	2A, 4A	1, 2A, 3, 4A	1, 2A, 3, 4A	2A, 2B, 3, 4A	1, 3, 4A, 4B
T8	2A, 2B, 3, 4A	2A, 4A	1, 2A, 2B, 4A	1, 2B, 4A	1, 2A, 2B	1, 3, 4A

Endnotes

¹ Details of the methodological design including all questions are not published yet.

² At this time we do not distinguish between competence goals and learning goals. We talk of a competence goal because the authors of the cited publication do so. The usual difference in understanding is not relevant in our context.

³ In Germany apprentices are paid by the employer according to tariffs particularly settled for this group.

⁴ The University Koblenz-Landau has a special agreement with this secondary I-school (Realschule+), for cooperating in teacher training and testing new teaching concepts.

⁵ One student has had a vocational training as a banker before starting his university studies.

Jan Löfström, Marko van den Berg

Making sense of the financial crisis in economic education: An analysis of the upper secondary school social studies teaching in Finland in the 2010's

Keywords:

financial crisis, economic crisis, economic education, social studies, upper secondary school, Finland

The current financial-economic crisis has actualized important issues regarding the dynamics of the economic system, the relations between economy and politics, and the notions of good society. Thus the question of how economic education in school can support students' understanding of the crisis is relevant to pose. This article asks what are the strengths and weaknesses, and also the promises and challenges, in the Finnish upper secondary school economic education, concerning teaching about the crisis? The article analyses the core curriculum for upper secondary school economic education in Finland, the available upper secondary school economy textbooks, and a selection of students' social studies exam papers in the matriculation examination in spring 2010. The focus of the analysis is on how the current financial-economic crisis is presented in the textbooks and in the exam papers, what the competences are that the core curriculum delineates economic education should develop in students, and what capacity Finnish social studies teachers have for teaching about economy. The article proposes that the presence of historical perspectives and political analyses in economic education are important, in particular when teaching about topics like the current financial-economic crises.

1 Introduction: Economic crises – A golden opportunity for economic education

From the perspective of school economic education, economic crises are welcome. This is because, firstly, in times of economic turbulence students tend to become more interested in economic issues. We recall our students' reactions in the early 1990's when Finnish economy was hit by a devastating depression, the state finances were seriously off the balance and unemployment in Finland peaked higher than ever before since the 1920's. Students were very keen to discuss economy. The current economic crisis appears to have triggered similar reactions – also in other countries (e.g. Blinder 2010, 385).

Secondly, in times of economic crisis policy-makers are likely to support economic education and allocate resources to it, aiming to make citizens economically more well-informed and more prepared to manage their finances. The current crisis has raised concerns at citizens' knowledge of economy, hence numerous educational programmes have been launched in the OECD countries since 2008 for the purpose of improving citizens' financial literacy (Yoong 2011, 69). However, one problem with these programmes is precisely that they often have

a narrow view on economic crises: they see the challenge of preventing economic crises primarily as a question of how to improve citizens' allegedly poor financial literacy. One can argue that, in fact, there are systemic structural flaws which have conduced to the current crisis: a rampant finance capitalism and the global economic inequalities are inherently liable to generate crises like the one we face at the moment (Krugman 2012; Patomäki 2012; Roubini & Mihm 2010). Indeed, a third positive effect of economic crises on economic education is that they can inspire critique of the ideological premises of economics and economic education.

After the outbreak of the current crisis economists have been urged to acknowledge the shortcomings and blind spots in the hegemonic theories of their science. These include, for example, a dismissal of the political and moral dimensions of economy and an unfounded faith in mathematical modelling of human economic behaviour (Krugman 2012; Roubini & Mihm, 2010; Turner 2012; Patomäki 2012; Askenazy et al. 2011). Also, for example, Peter Bendixen (2010, 46) has argued that a notion of economics as a world of logical structures that can be rationalized by human intellect is only a construction.

The complexity of the moral and political aspects of economy entails, that one can usually justify more than one kind of economic policy. To policy-makers it may be expedient to claim that there are no alternatives, yet alternatives usually exist. In the current Eurozone crisis the dominant view at first was that austerity is of paramount importance to the states hit by the crisis, but by autumn 2012 alternative views were voiced all the more loudly also among European policy-makers. This reminds us of the inescapably controversial nature of arguments in economic policy.

Does school economic education provide students with adequate intellectual tools to understand the current economic crisis? In search for answers

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we should analyse the curricula, the textbooks and the conceptions and practical solutions of teachers so as to see what notions of economy they imply and what elements of the 'big picture of economy' they miss or ignore. We should also study students' notions of economy and its dynamics. Regarding the current crisis, for example, it would be worthwhile to look how students explain its causes and effects (see: Klee & Lutter 2010). There is a lot to cover, but in this paper we will take a less ambitious view on the subject.

We are interested in how economic education in the Finnish upper secondary school is prepared to address a topic like the current crisis. We will study the core curricula for economic education and the content of economy textbooks. We will also explore how the current crisis was interpreted in the exam papers of Finnish upper secondary school students in the matriculation examination, in 2010. Our analysis of the books and exam papers focuses on how the causes and solutions of the crisis are presented there. We are interested in what is either emphasized or 'missing' in these accounts, if we compare it with 'what would be possible and reasonable to say in relation to a contemporary debate' (Andersson et al. 2011, 83). Our underlying concern is that in the public debate there has often been, in Finland at least, a tendency to de-politicize economic policy, hence we like to look if the students see any 'politics' in economic policy. We will seek to identify the challenges and weaknesses, and the strengths and opportunities that Finnish economic education has in dealing with the current crisis. We believe such an analysis is of interest to those pondering upon alternative models of economic education that would provide the students with intellectual tools to think about economy – and to do something about it.

Before embarking upon our exploration of Finnish upper secondary school economic education we will discuss briefly the fact that the situation in Europe today is, in fact, similar to Finland twenty years ago. In the early 1990's Finnish economy crashed in a deep depression. The crisis had effects on Finnish economic and social policy, and it has had relevance also to Finnish economic education and how the current crisis is seen from a Finnish perspective. In the next chapter we will take a look at the master discourse of economic policy in Finland after the 1990's. It has dominated economic discourse in Finland to such an extent that we find it justified to name it an ideology, that is, an explanatory framework whose apparent self-evidence makes it difficult to perceive its political and contestable nature (cf. Kantola 2002, 271-273).

2 The ideological context for teaching the current economic crisis: the shadows of the 1990's crisis in the Finnish economy

In the early 1990's the Finnish economy was hit by a depression more devastating than any other in Finnish history. In fact, it was one of the worst economic crises in the post-war Europe. The official

unemployment rate increased from 6.8 per cent, in 1991, to 16.6 per cent, in 1994. The public finances had an annual surplus of five per cent of the GDP in 1990, but it turned to an annual deficit of 5-7 per cent of the GDP in the period 1992-1994. The net debt of the public sector increased from only 14 per cent of the GDP, in 1990, to 58 per cent of the GDP, in 1994 (Kiander 2002, 31, 35). The number of enterprises filing for bankruptcy exceeded 7000 in 1992. (See also the Internet sources, www.stat.fi and www.yrittajat.fi, in the references.) Financial sector was in a crisis, due to the defaulted enterprise and household credits. As the housing markets had become overheated some years before, thousands of house owners now faced liabilities they were unable to meet, the result being that many families had to sell their home in falling markets and still not been able to clear their credits. Thus the situation very much resembled the one we have witnessed recently in Spain, Ireland, and the US.

There is some consensus on the causes of the crisis, however there is still debate on how much the policy makers may have aggravated the crash. A major factor behind the crisis was the deregulation of the capital markets by the Right-wing-led coalition cabinet, in 1987-91. It unleashed an unhealthy expansion of household and enterprise credits which resulted in overheated housing markets. The deficit in the balance of trade increased. The Finnish currency, Mark, was overvalued, yet the exchange rate policy was not altered. The rationale was to end repeated devaluations and to force economy and enterprises to adapt to a global competition. But when investors lost confidence in the Finnish economy, also the Mark became under pressure and it was devalued twice in 1991-92. According to the critics, the hardheaded policy of strong currency made the recession only deeper. But also the devaluations of the Mark had serious consequences: those who had debts in foreign currency often defaulted their payments, and this triggered a financial crisis. Moreover, a major part of the Finnish export trade collapsed because of the dissolution of the Soviet Union, in 1991, leaving numerous Finnish enterprises suddenly in great difficulties. (Kiander 2002, 51, 57-62; Kettunen 2002, 16, 33-41.)

Economic recovery began in the mid-1990's, but the way was long. The devaluation of the currency supported Finnish export trade; financial sector was restructured and the state took over or supported financially the banks that were in the worst situation. A major legacy of the crisis was that from now on there would be strict adherence to a policy of keeping public finances in balance. The policymakers adopted the view that the crisis was, fundamentally, structural: the crisis was caused by the collapse of the Soviet Union and aggravated by the intrinsic pressures stemming from an overly 'swollen' public sector. Hence massive cuts in public spending were explained to be indispensable. The ideologically motivated relaxation of capital flows and a misfired central bank policy in the 1980's were mostly ignored in these post-hoc explanations (Kiander 2002, 55-58; Kantola 2002; Patomäki 2007.)

The Finnish 1990's discourse of 'inevitable austerity' bears close resemblance with the economic policy we have seen the European Union institutions inculcate on the member states during the current crisis. According to some analyses of the 1990's crisis, the massive state budget cuts made the slump only deeper and unnecessarily deteriorated unemployment (Kiander 2007; Kettunen 2002). Maybe because of this massive cuts in the state budgets have been avoided in Finland in the recessions of the 2000's, yet the Finnish economic policy in the 2000's has been characterized as distinctly neo-liberal, for example by the Finnish political scientist Heikki Patomäki (2007). The major keywords have been competitiveness, productivity and flexibility. Economic discipline has had a prominent role in public discussion since the 1990's, and policy-makers commonly use 'economese', the language of economic absolutes, when justifying their political programmes. Marko van den Berg (2010) has pointed out that also adolescents now readily use this language when being asked to explain recent social developments in Finland. Independently of which political parties have formed the government coalition, policy-makers have endorsed a policy of 'incentive taxes', restrictive welfare entitlements and extensive 'competitive markets' (Julkunen 2001; Patomäki 2007). The state has followed the policy of balanced public finances that the European Union Stability and Growth Pact has mandated. This is part of the explanation why there has been considerable reluctance among the Finnish audience towards the idea that the EU member states would collectively shoulder the liabilities of the European states that are now in financial difficulties.

The amount of obligatory economic education in the upper secondary school and in basic education in Finland was increased by half in the 2000's, with the motivation that school must support students' economic competence more. Also entrepreneurial education has been encouraged considerably in the post-crisis years. It is indicative that one of the six cross-curricular themes in the National core curriculum for upper secondary schools 2003 is titled 'Active citizenship and entrepreneurship' (National core... 2003, 27). The cross-curricular themes in the core curriculum are a statement on what policy-makers see as the pressing social issues school should address across a wide front. The title 'Active citizenship and entrepreneurship' conflates the citizen and the entrepreneur as actors in society. Moreover, it appears that the entrepreneur in the entrepreneurial education programmes is not a shopkeeper or an artisan but a person who runs an expansive, risk-oriented enterprise (Keskitalo-Foley et al. 2010). Thus it is justified to say that the policy of Finnish economic education in the 1990's and 2000's has fed, inadvertently or not, a notion where the citizens are conceived in terms of competitive individuals in a network of mutual relations of exchange.

Let us now take a closer look at the core curriculum for economic education and the teachers who implement it in the Finnish upper secondary school.

3 The economic education curriculum and the economy teachers in the Finnish upper secondary school

What are the objectives and contents of economic education in the upper secondary school in Finland, and what capacities do economy teachers have for dealing with economic education?

History and social studies was a dual subject until 2003-04 when they became two separate subjects, but their ties still remain close. History and social studies (in basic education civics) are usually taught by the same teacher who, in most cases by far, is an expert in history rather than in social sciences. According to a recent survey, only eleven per cent of the history and civics teachers in basic education (comprehensive school) in Finland have majored in social sciences (Ouakrim-Soivio & Kuusela 2012, 33). The percentage is probably approximately the same in upper secondary schools because subject teachers in basic education and in upper secondary schools share the same academic education and often teach at both school levels at the same time. The percentage will probably gradually grow in the future as social studies and civics all the more are perceived as autonomous school subjects and not as 'auxiliaries' of the school subject history.

Finnish social studies/civics teachers have studied a minimum of 60 ECTS credits in social sciences, and out of this a minimum of 25 credits is in economics. The formal requirement concerning studies in economics was more flexible until the 2000's, and the new regulation on the social studies/civics teachers' qualification at this point can be seen as an indication that competence in economics is considered more essential to social studies teachers than before. In fact, it is noteworthy that in a recent survey on civics teachers in basic education economy was a subject area in which the teachers themselves considered they had a great need to update their studies (Ouakrim-Soivio & Kuusela 2012, 33). It is likely that this view is also shared by social studies teachers in upper secondary school because they have the same education as civics teachers in basic education also when the topics in the upper secondary school economy courses are more complex and theoretical than in the basic education economy courses. Also regarding the studies in subject didactics, civics and social studies teachers share the same background. Social studies/civics didactics as a field of academic research and pedagogical development has long been in the shadow of history didactics and it has begun to develop more energetically only fairly recently (Löfström 2012). Thus also didactics of economic education still has a very limited space in social studies/civics teachers' education.

Teachers in Finland often see themselves reasonably free to decide on the methods and contents in their teaching. The national core curricula which are in force since 2003 (upper secondary school) and 2004 (basic education) are more detailed than their predecessors in 1994, but there is also space for individual manoeuvring. The

aims and objectives of teaching are stated in rather general terms (see the National Core... 2003, and National Core... 2004, in the references). For the purposes of our discussion it suffices to make the following remarks on economic education in the national core curricula:

- Economic education is part of the subject 'yhteiskuntaoppi' (social studies, civics). Approximately 40-50 per cent of the mandatory social studies classes are allocated to economy, the rest is allocated to politics, law and social policy. The school can offer optional extra courses in social studies/civics, also in economy or in entrepreneurial education.

- Economic education in basic education is focused on the basics of economy and civic competences, such as managing one's own purse, but also Finnish and global economy are discussed. In upper secondary school the approach is more theoretical and the subject matter is largely hinged upon the concepts of mainstream economic theory, like demand, equilibrium and competition (National core... 2003, 189-190). 'Sustainable development' is one of the cross-curricular themes in the national core curricula, both in basic education and in the upper secondary school (National core... 2003, 28-29). However, the structure of the economy courses hinges on mainstream economics, hence sustainable development is only given a marginal role. Also most of the economy textbooks are conspicuously ambivalent in their view on sustainable development (Aarnio-Linnanvuori & Ahvenisto 2013; Löfström 2007). The situation in Finland in this respect is not unique: in many countries the conceptual framework of economic education is derived from a neoclassical economic theory (see: Ötsch & Kapeller 2010, 16). Alternative approaches do exist, for example in France, but they have been criticized, indicatively, by economists and the business for portraying the world of business too negatively (Chatel 2010).

- The core curricula for economic education touch very lightly on the social aspects of economy and the relationship between economy and politics. We will discuss this later in more detail, but it is worthwhile to just mention here that the National Core Curriculum for Upper Secondary School 2003 declares that the economy course 'is based on economic sciences and will deal with micro- and macroeconomic issues from the perspectives of consumers, businesses and states' (National core... 2003, 189). Symptomatically, the word 'society' does not feature in the exposition of the economy course in the core curriculum (National core... 2003, 189-190).

- The objectives for social studies teaching in upper secondary school include many items referring to students' ability to participate in society and in politics; one of the most notable is that students will be capable of 'forming justified personal views of controversial social and economic issues that are bound to values' (National core... 2003, 188). More specifically,

among the objectives of the economy course one can read that students will 'obtain skills to make everyday economic decisions and also examine economic issues from an ethical point of view' (National core... 2003, 189). These objectives can be considered laudable, and some of the mandated core contents in the economy course might well contribute to them; topics like 'market deregulation', 'politics and market forces', or the 'effects of globalisation' do have obvious links with ethics (National core... 2003, 190). However, the exposition of the core curriculum does not suggest links between the contents and the objectives that are mentioned above. For example, the text fails to call attention to the ethical, social and political aspects of globalisation and market deregulation. Probably this is partly due to a tradition of self-imposed political neutrality in the Finnish school social studies.

From its very beginning in the early 20th century, social studies/civics has usually been declarative and seemingly apolitical in relation to social questions. 'Neutrality' has often been seen as politically expedient, but also the form of knowledge in social studies has not been conducive to an analytic approach to society because it has not been informed by the epistemology of social sciences (Arola 2001; Löfström 2001; Virta 2000). In a survey in 1999, civics teachers in basic education judged that civics is strongly concentrated on teaching facts about society whereas discussions on civic values and exercises in civic participation are in the margins. However the teachers voiced that the latter should have a more central role. (Suutarinen 2007, 106-108.) In the professional media many social studies/civics teachers have also ventilated their discontent with the tradition of simulated neutrality in social studies, and they have urged colleagues to acknowledge and to appreciate the political element inherent in the topics addressed in social studies class. The civics textbooks in basic education have become more analytic and more critical in the 2000's (Virta 2006), but as the textbooks and the core curricula are always a result of negotiation between various actors, it is not surprising they do not commit themselves politically.

What the social studies teacher is teaching in the social studies class is not a direct reflection of the content of the social studies textbook. Still, for reasons we explain below, it is worthwhile to take a closer look at the social studies textbooks and see how they discuss certain economic questions and, more specifically, questions that have relevance also to how the current economic crisis is being interpreted.

4 Upper secondary school economy course textbooks and the current economic crisis

As Inari Sakki, a Finnish political scientist, has pointed out in her study of the social

representations of the European integration in the Finnish social studies textbooks, school textbooks 'do not only transmit facts and information, but also norms and rules of societies, ideologies and images' (Sakki 2010, 89). This is particularly the case in subjects like social studies or history where the subject matter is inherently susceptible of competing perspectives and interpretations, and where the language used in the exposition of the subject matter easily carries implicit value judgments or makes ideological statements. Hence it is of interest to analyse, for example, the representations of economy in the school textbooks and see what images and ideals of society and social life they convey in the interpretations they make.

In Finland practically all school textbooks are produced by commercial publishing houses. Until 1992 the National Board of Education reviewed the textbooks before they were released for publication so as to confirm they were in accordance with the national core curricula, whereas now it is the market – teachers and students – which effectively passes the verdict on the quality of a textbook. The structure and the core content of the textbooks are based on the guidelines provided by the core curriculum. This is understandable: it would be an economic and a credibility risk for a publisher to launch a book which clearly does not match with the core curriculum. Publishing houses look for novel pedagogic solutions in their textbooks, but also there they are usually cautious about changes that would radically depart from the conventions of the genre and, hence, could alienate teachers and students.

Social studies textbooks in Finland are mostly authored by teachers and, to a lesser extent, by researchers at universities or professionals like economists or prominent journalists. They are invariably authored by teams of 2-5 authors which is likely to result in compromises in the exposition of the subject matter. However there are also differences, for example in how economic growth is presented as an inevitable target or as an open political question in the social studies textbooks (Aarnio-Linnanvuori & Ahvenisto 2013; Löfström 2007). Thus, ideological differences may exist between the books, and when the books date from the same years, these are likely to reflect, inadvertently or not, the ideological premises and world views of the authors rather than some outspoken policy of the publisher.

Textbooks provide the basis for teaching a subject. A recent survey tells that 88 per cent of the civics teachers in basic education in Finland use a textbook in the civics class 'always' or 'very often' (Ouakrim-Soivio & Kuusela 2011, 33-35). There are no percentages for upper secondary school social studies teachers but there is no reason to believe they are significantly lower. It is also worthwhile to mention that students in the upper secondary school use textbooks as study material when they prepare for the matriculation examination. Moreover, the social studies teachers in Finland are, as we mentioned earlier, mostly specialists in history and

not in social sciences and, hence, they probably rely more on the textbook in the social studies class than in the history class. The aforementioned survey shows that Finnish civics teachers in basic education also consider economy a subject area where their need for further training is most acute. Thus, an analysis of economy textbooks can be assumed to give some relevant information on what kind of interpretations and images regarding economy are probably being presented in social studies/civics classes.

It would be possible also to make a pedagogic, or 'didactic', analysis (Pingel 2010, 31) of the methods that social studies textbooks deploy in teaching particular topics, for example the current economic crisis. However our interest here lies in what Falk Pingel has named the 'content analysis' of a textbook; this approach poses questions about the congruity between what the textbooks and academic research say and how comprehensively the books cover particular topics, for example (Pingel 2010, 31).

The focus of our analysis here has been on how the social studies textbooks discuss the economic crisis that erupted in 2008. Our method has been to analyse sequences in the textbooks that refer to the crisis, and to categorize their contents according to how they respond to the following questions which have been central in the debates about the current crisis:

- What are the causes and consequences of the crisis considered to be, and what are the remedies suggested to the crisis?

- What are the actors that are identified to have been involved in the genesis of the crisis or in the efforts to contain or to resolve it?

Regarding the first point above, the more specific issues that we have been keen to look at in our analysis is how the textbooks assess:

- the advantages and disadvantages in expanding/diminishing the role of the private and the public sector in economy, respectively;
- the advantages and disadvantages in the regulation or deregulation of the market;
- the priority of objectives in economic policy, particularly regarding inflation on the one hand and unemployment on the other hand.

In our analysis we have paid particular attention to perspectives and interpretations which are omitted in the textbooks but which would be 'possible and reasonable' to raise in the context, as Andersson et al. (2011, 83) put it in their analysis of Swedish economy textbooks. Of course, space in the textbook is always too limited to allow detailed discussion on the economic subtleties, yet it is pertinent to look how, within these limits, the textbooks depict economy and the economic crisis.

We have analyzed also the social studies textbooks for the economy course in upper secondary school that have been published prior to the crisis, so as to see if there are differences between the different editions of the books before and after the outbreak of the crisis in how they discuss the questions which have come to the forth

after the crisis, for example about de/regulation in economy or the role of the public sector in economy. The crisis has triggered public debates on the very premises of economics and the economic order, and it is a reasonable hypothesis that because the publishers and the authors strive for topicality in the textbooks, these debates would be visible in the books, too. The social studies textbooks which have been analyzed have been published in 2004–2012, that is during the period when the current core curriculum for Finnish upper secondary schools has been in force.

In addition to the textbooks for the obligatory economy course we have analyzed the textbooks for the obligatory course in the twentieth century Finnish history, so as to see how they discuss the 1990's economic crash in Finland which can be considered a twin to the current European crisis. The main object of our interest there has been the interpretations of the 1990's crisis and how, for example, the crisis is explained in the books as an outcome of economic policy decisions or as a painful adjustment to the realities of economy or as a combination of both.

We start our discussion with the book *Forum Uusi Taloustieto* (2011). In our view it is the book which more than any other textbook we have analyzed invites students to ponder on the political elements of economy. It has 1-2 pages long separate texts or 'information boxes' which discuss issues of economic debate, like the consequences of the free trade policy and globalization (p. 158). Often these boxes are titled with a direct question, for example, 'Is it reasonable of the state to get in debt?' (p. 138), or 'Greed and globalization in the background of the 2008 financial crisis?' (p. 93). The boxes do not take a stand on the controversies but try to give voice to opposing views. In the layout of the book the boxes are easy to update or change, should need arise to address other, more topical issues. On the other hand there is a risk that students will easily skip separate information boxes as 'extra' they do not need to study so closely.

Also the rehearsing questions in *Forum Uusi Taloustieto* often address controversial issues. For example, students are asked to ponder on who to blame on the financial crisis and on what grounds (p. 96). Further, they are asked to defend and to criticize public debt (p. 147), globalization from the perspective of different countries (p. 164) and the claim that the environment can not sustain economic growth (p. 191). These assignments encourage students to a critical reflection of economic affairs, however it is possible that unless there is an explicit invitation to think of the role of different actors in economy, as in the question about the culprits in the crisis, the assignments may result in simulated debates where the political interests in economic issues are ignored or only remotely touched upon.

The 2008 financial crisis is explicitly addressed in *Forum Uusi Taloustieto*; in fact, the discussion on it is very extensive, ranging over seven pages (pp. 90-96). Though it can be considered balanced in terms of its perspectives, there is a shortcoming in that the

role of financial institutions in creating potentially destructive 'innovations', like subprime credits, does not come up. The 'rotten' security packages just seem to have appeared from somewhere in 2008, and 'investors did not have a clear picture of the content of the package' (p. 90). The information box and rehearsing question we mentioned raise the point about moral responsibilities in the financial crisis, but this part may escape students' attention because they may often read only the body text when preparing for an exam.

Forum Uusi Taloustieto has, in our view, a well-balanced perspective on economic issues. The textbook describes market economy as a stone base for our economical system, which has been able to produce growth and welfare. On the other hand, the book also pays attention to the shortcomings of the prevailing economical theories. For example, it notes that the GNB growth rate can only partially represent the real well-being of the population. It also introduces the notion that market economy can be practised in different ways: both monetarism and keynesianism are presented as the major paradigms for the maintenance of state economy. The exercise questions also encourage the students to reflect on different alternatives for economic policy. In some instances one may however discern in the book a tilt towards mainstream interpretations of economy that could be challenged or problematized. For example, the book argues that Adam Smith dismissed the policy of states intervening in the markets (p. 46, 142), that public utilities pose a 'challenge to free competition' (p. 50), that a moderate regulation of the financial markets is needed until the markets recover (p. 96), the statutes guiding the work of the European Central Bank (ECB) 'aim to protect the ECB from attempted political influencing' (p. 114), the Bank of Finland has now 'in practice more power in fiscal policy than ever before' (p. 118), inflation hits hardest the poor (p. 129), and that heavy taxation in one country may entail a risk of industrial production, capital and labour force moving to countries with a lower taxation (p. 137). All these claims are far from being uncontroversial, yet they do not alter the big picture that *Forum Uusi Taloustieto* has a reasonably multiperspectivist view on economy and economic policy.

After this rather an extensive discussion on *Forum Uusi Taloustieto* we will now comment on the other economy textbooks briefly by setting them against the relief of *Forum Uusi Taloustieto*. The old version of the book, *Forum Taloustieto* (2004), authored by a partly different team, discusses clearly less issues of political debate. It would be harsh to say that it ignores connections between economy and politics, but, at any rate, it does not give them much space. This is also the case in the other textbooks of the early years of the 2000's that we have analyzed which are *Agenda. Lukion taloustieto* (2004) and *Lukiolaisen taloustieto* (2004). In part at least, this is probably a result of that in the obligatory social studies courses in upper secondary school the subject political system is placed in the first course and economy in the

second course. This division is legitimate but the interconnections between politics and economy may thereby easily become difficult to piece together. It does seem, however, that the current crisis has encouraged some of the publishers and authors to incorporate in the economy textbooks also elements where some of the openly political debates and controversies on economy are presented. In addition to *Forum Uusi Taloustieto*, this feature is also clearly visible in *Kansalainen ja talous* (2010).

Kansalainen ja talous discusses capitalist market economy extensively. It contends in that context that also market economy benefits from the regulative policies of the public power (p. 51-52). It points out that the balance between the free markets and the public power varies according to the political constellation and social structure in a country (p. 52). However these observations are not connected to concrete cases or countries. Like *Forum Uusi Taloustieto*, also *Kansalainen ja talous* discusses the 2008 financial crisis only briefly in the body text but more extensively in a separate 'box'. The box locates the birth of the crisis in the US mortgage markets where the banks issued mortgages in expectation that housing prices would continue to rise (p. 111). The text names buccaneering and the policy of incentives in the US financial sector as the major cause to the crisis, and it states that the crisis was brought about by 'greed, imprudence, lack of control, ignorance and a nonchalance that repeatedly accompanies periods of economic boom' (p. 111). Yet we think the analysis fails to mention relevant institutional and ideological factors that would help us understand why the crisis could develop and why the problems in the housing market were not addressed in an earlier phase. It is surely not incorrect to say that the US financial institutions and bankers are major culprits in the crisis, but it would add important elements in the picture if also the role of political decision-makers and advocators of a rampant free market ideology in the deregulation of the financial industry and capital markets would be discussed. Narrowing the focus on the bankers entails a risk that the crisis is explained only in terms of individual irresponsibility or greed, without pondering on a wider political, social or structural framework of the crisis (cf. Klee, Lutter 2010).

The social studies textbooks that we have analyzed are reasonably neutral in tone, however they do not clearly take up the ties between politics and economy. They have a tendency to speak of economic developments as something that 'happens', instead of portraying them as an outcome of political choices. This applies at least partially also to *Forum Uusi Taloustieto* and *Kansalainen ja talous* which are more sensitive of the political element of economy than the other textbooks. We do find mild criticism in some books, for example regarding the power of big corporations or the instability caused by the deregulated financial markets, but such criticism is scarce. In some cases the textbooks give an impression that economic development has its unyielding laws and that, for example, the notion of

extensive free markets as the primary organizing principle for public policy is unproblematic. Neo-classical notions surface in many occasions, but their ideological tenets remain undiscussed. For example, *Agenda. Lukion taloustieto* (2004, p. 105) explains the deregulation of the capital markets in Finland in the 1980's as follows: 'It has been commonly held that ending regulation is important because, according to many, the free markets can channel capital flows to purposes that are most efficient for economic development. Regulation [in Finland] had to be ended also because legislation could not keep the pace with development.' It seems here that legislation and political decision-making can only abide by the directives stemming from the analyses of economists.

It is worthwhile to note here that also in some of the history textbooks that we have analyzed one can discern a notion that the laws of economy stipulate what is feasible or necessary in economic policy. – Such resemblances are not surprising, considering that the authors of the social studies and history textbooks are often the same people. – For example, discussing the 1990's economic crash in Finland the textbook *Forum: Suomen historian käännekohtia* (2012) states that the Finnish government was only 'forced to react' to external pressures (p. 172-173). The economic policy of the state appears merely reactive. The book does not consider the interpretation that the hasty financial deregulation or the Finnish central bank fiscal policy may have conducted to the outbreak and escalation of the crisis. Likewise in the textbook *WSOYpro: Linkki 4 Suomen historian käännekohtia* (2011) we read that the 'political decision-makers had no alternatives: social income transfers and social services had to be cut. At the same time taxes had to be raised' (p. 204-205). It appears as if the politicians had no choice but to capitulate to the necessities of the economic situation which suddenly had emerged. The explanation to the crisis is more diverse in the textbook *Kaikkien aikojen historia 4. Suomen historian käännekohtia* (2009): 'a hasty deregulation of economic life' and 'a misfired foreign exchange policy' (p. 178-179) are also listed among the potential causes of the crisis, albeit only in passing.

In sum, the textbooks we have analyzed mostly say very little about how to connect political and economic processes with each other. For example, the role of political decisions in the context of the financial crisis is either ignored or just briefly alluded to. Presumably the authors (and publishers) of the textbooks count on social studies teachers providing a more detailed political analysis in the class, and some teachers may do that, yet it would be important that the political element in economic policy is discussed more also in the textbooks so that all social studies students are invited to ponder on it, independently of individual teacher's choice. Now such discussions are missing or cursory in the textbooks. As we mentioned, the current social studies curriculum for upper secondary school discusses the political system and economy in two

different courses, hence it is easy to understand that also in the textbooks the links between politics and economy are rather few. In addition, one can suspect that the authors (and publishers) also reflect how much 'politics' they should put in the discussion on economy. The books are rather neutral in how they discuss economy and, for example, the current crisis, though one can suggest that this neutrality may often effectively entail an implicit support to the 'truth' of neo-classical economics. Some of the textbooks put forth more readily the kind of notions of the blessings of competitive markets and austerity in public finances that have also been endorsed in the mainstream neo-classical economics and in neo-liberal politics, whereas in some of the books there are also, for example, critical perspectives on deregulated capital market or the global role of corporations. Explicit judgments are few, however, and they are likely to be in the parts that are 'extra' reading or placed in separate boxes in the layout of the book, being thereby separated from the seemingly purely factual and neutral body text. They are the space in the textbooks where the homo politicus is allowed to enter economic discourse.

6 Accounts of the financial crisis in upper secondary school students' exam papers

We now turn to the third part of our discussion which is the analysis of exam papers of upper secondary school students in the matriculation examination in 2010, where one of the social studies exam questions was about the financial crisis and its effects on the Finnish state economy.

Student conceptions of the 2008 financial crisis have been studied, for example, by Andreas Klee and Andreas Lutter (2010) and Michael Schuhen (2010). As material these authors used students' essays or interviews focusing on the students' views on the causes and consequences of the crisis and, in Schuhen's study, the solutions to it. The matriculation examination social studies exam papers we have used as material in our study are probably substantially more shallow than Klee' and Lutter's group interview material and Schuhen's student essays, but nevertheless they can provide valuable perspectives. In a high-stakes examination like matriculation examination the students are more likely to reiterate textbook accounts which they - reasonably - assume are authoritative so that they will also be accepted as correct by the referees in the Board of Matriculation Examination. However, people do not construct their view of the world only on the basis of what they learn in school; as Klee and Lutter (2010, 77) point out, they are also 'influenced by social experiences, commonsense understanding or the media on a daily basis'. The influence of these 'non-academic' discourses can be assumed to be visible particularly in the exam papers that discuss topical political or economic issues. In the Finnish social studies matriculation exam most of the exam questions have such an element of topicality, like for example the question that we will presently discuss. With such exam questions the students can not

directly resort to a textbook account but they need to construct the answer more independently. For a researcher it is interesting to analyze these answers as they are produced in a high-stakes examination situation where the students are expected to construct what they assume is a legitimate account on the given subject.

As mentioned, the Finnish social studies textbooks tend to take a prudent and neutral view on the financial crisis. The teachers are not obliged to follow the interpretations of the books but the impact of the textbooks on teaching may be important in social studies as most Finnish social studies teachers are not specialized in social sciences. The core curriculum for upper secondary schools encourages students to bring forth critical views and to make their own judgments, but the textbook genre traditionally has not supported these objectives; the textbooks have been seen as instruments for conveying factual information. Thus the relation between the objectives in the core curriculum and the contents in the textbooks can be tenuous. In our analysis of the exam papers we have been interested in such potential tensions.

In our analysis of the exam papers we have also focused on what causal connections the students have constructed when explaining the background of the financial crisis. Do they refer to particular decisions and identifiable political actors or are the events described at a more general level? We have been looking for references to political ideologies that are more or less overlooked in the textbooks. Are the reactions to the financial crisis described as technical and non-ideological or as political? In addition, is there in the exam papers some notion that the means for dealing with the crisis can also be perceived as political choices?

Virta, Löfström, and van den Berg (2010) have described briefly the parameters of the Finnish matriculation examination, hence they are not discussed here in detail. Approximately one percent of the exam papers each year is archived for research purposes. Because of a statutory period of confidentiality researchers do not have access to papers until 18 months after the exam. For this article we have used exam papers from the social studies matriculation exam in spring 2010.

One of the ten optional questions in the social studies exam spring 2010 addressed the 2008 financial crisis. In the question the students were assigned to discuss two opposing quotes by Finnish experts on whether the Finnish state should increase its spending in the present-day situation. The students were also asked, '*What kind of troubles did the world economy get into in 2008, and by what means did the Finnish state try to tackle them for its part.*' Out of the 4,900 students taking part in the social studies exam 72 per cent chose to answer to this question - a moderately high figure in this exam¹. The random selection of exam papers that has been archived and that we have studied consists of 54 papers written by 25 male and 29 female students in 14 upper secondary schools. Regarding the level of student performance, there is no

systematic bias in the material. In the following we will discuss the features that we find most noteworthy in the exam papers.

The students had a reasonably good or a satisfactory grip of the sequence of events in the financial crisis from 2008 to 2010 and the location where the crisis first exploded. For example, they were well aware that the explosion has been located in the US and they could mention the unhealthy expansion of the housing loans and the subsequent spread of high-risk securities. Our data is much too small to allow conclusions about statistical representativity, but as a piece of 'hard data' we can note that two-thirds of the students mentioned the financial meltdown in the US banking industry and over a third of the students mentioned that the problems of the US banks were connected to the excessive risks they took in the mortgage market. What we find more noteworthy than these figures per se is that also the exam papers with more detailed information very often contained considerable inaccuracies and conceptual errors. The following quotes may serve as examples (the figure in the end of the quote is an identification number in our notes):

'The troubles in 2008 started in the US where lots of credits were given and then people could not pay them and then banks began to fall. This soon led to troubles also in Europe where the banks ran into problems. This resulted in a depression when people could not anymore consume in the same way, and economy came into a halt.' (1196025)

'The cause to the banking crisis which began in the US was that the banks had issued credits too carelessly until suddenly there was no more money. The state in the US saved some banks through capitalization so that economy would not capsize totally.' (1196011)

'In 2008 a housing bubble busted in the US and one of the biggest investment banks collapsed. The housing bubble was caused by low interest rates which encouraged people to buy bigger and bigger houses with mortgages that were bigger but cheap. The mortgages did not have solid collaterals and the housing market plummeted. The US economy fell abruptly. The European banks began to suspect each other of having investments in the collapsed US shares.' (1068016)

'In 1996 the US Government had ordered the two biggest banks to issue credits to the poor. Yet also people with middle-income could get these loans "easily". Really many Americans seized the opportunity to get a loan on loose grounds like this, which resulted in an explosion in the housing prices in the US. But suddenly the housing prices turned into a steep decline.' (1068015)

'In 2008 a banking crisis began in the US with

the so-called bad banks. The US banks didn't get their money back when people got into excessive debts. The crisis began in the housing market, spread to the finance market and all over the world through international investment industry. When a US bank fell there was lack of confidence between banks since one couldn't know which banks had investments in the bank that had fallen.' (1068056)

The first quote is basically factually correct but it does not specify the nature of the fatal credits or why people defaulted in payments. The second quote fails to tell the difference between mortgages and other credits, and though it points out right that credits were given carelessly, it does not explain why money suddenly disappeared. The third quote is reasonably precise and detailed, but it does not point out clearly that a major factor in the housing bubble was that households with low or no steady income had been encouraged, even urged, to take mortgage loans. The fourth quote also fails to distinguish between credits and mortgages but it correctly mentions that there had been a new policy, urged by the US government, to issue 'credits' also to those with low income and that a lax credit policy was conducive to the housing bubble. The turn of the tide in the housing prices is left unexplained, however. The fifth quote is also factually reasonable correct but it does not explain what had made people take excessive debts. Interestingly, the student has given 'bad banks' as the cause of the financial crisis. Probably the student has confused the concepts 'rotten credit' (in Finnish, *roskalaina*) and 'bad bank' (in Finnish *roskapankki*, a bank that has been founded to manage securities which risk a default), and as the issue of bad banks was not yet in the headlines in spring 2010, it is plausible that the student has got it from the history of the Finnish 1990's crisis where bad banks had a prominent role. In any case, the student's use of the term betrays a flawed picture of the causes of the financial crisis.

The shortcomings we have listed above are not glaring but they witness of students' difficulties to use appropriate economic terminology and to construct explanations, rather than descriptive accounts, of economic developments. It is probable that the poverty of explanations in the exam papers in some instances is a result of students not wanting to risk that they go wrong in details. It is noteworthy that the questions that students pose to the referees of the Board of Matriculation Examination in the Internet after the exam clearly show they often assume that also mistakes in details are fatal. Thus it is not surprising that in the exam papers the effects of the financial crisis on employment, economic growth or public finances are usually described in very general terms. But partly the students' difficulties in constructing explanations are perhaps due to that economic processes are simply difficult for them to grasp.

Causes and effects in economy are undeniably complex. In many exam papers that we have analyzed for this paper the students' understanding

of economic processes remains sketchy. For example, in the quotes above the accounts are often short of information: *'lots of credits were given and then people could not pay them'*; *'the banks had issued credits too carelessly until suddenly there was no more money'*; *'an explosion in housing prices in the US. But suddenly the housing prices turned into a steep decline'*. Michael Schuhen (2010, 43) has concluded that a major shortcoming in the economics students' interpretations of the financial crisis in his study was that the accounts were 'incomplete constructs based on only approximate knowledge'. If we consider that the students in the social studies exams in the Finnish matriculation examination have only studied economics in the civics and social studies courses in school, it is not very surprising that the factual content in their exam papers is often vague. This may also reflect the scarcity of time resources in social studies teaching: the economy course in upper secondary school is crammed with topics, and this may result in a cursory processing of the subject matter.

Moreover it appears that students do not conceive economy as a playing field with living human actors. In the exam papers that we have analyzed there are remarkably few identifiable human agents. In their accounts of the financial crisis the students mostly speak of institutional actors, like states and banks, or impersonal forces, like prices and interest rates. This is not a novel finding: also earlier studies have shown that Finnish young are inclined to explain both historical changes and contemporary developments in society with reference to structural forces and macrolevel processes rather than human agents (van den Berg 2010, 88-96). In fact, also the social studies textbooks speak this language; it is typical of their explanatory models that structural forces and causal mechanisms figure more prominently than intentions or motives of individuals and collective actors. The result is often a text where economic processes take place without distinguishable human actors. One can argue that when economic processes are depicted as something driven by impersonal structural forces, it is only likely that the students' picture of the processes remains fragile and they do not fully understand the internal logic of them. Arja Virta found out in her study in 1995 that whereas students' exam papers in the history exam in the matriculation examination usually had a coherent structure based on chronology or a sequence of events, their social studies exam papers mostly lacked internal coherence, unless there was some element of sequencibility also involved (Virta 1995). The exam papers that we have analyzed suggest that the students liked to construct narratives of economic 'events' as an explanation to what the financial crisis is about but they had so few agents to place in the narrative that the storyline was bound to remain so thin that it provides only 'approximate knowledge' (cf. Schuhen 2010) about the subject.

The role of political interests and ideological motives in economic decisions figure rarely in the economy course textbooks. There are some exceptions but as we have noted they are mostly

found in separate 'extra information' pages in the textbooks, thus students may easily skip them as seemingly marginal. Also in the exam papers that we have analyzed there are remarkably few references to the political origins of the financial crisis. However, the question was posed in a way which did not clearly suggest the students should venture into a political analysis of the crisis in the first place, thus the responsibility for the lack of such analysis in the exam papers partly lies with those who formulated the question (i.e. also one of the authors of this text). Löfström, Virta and van den Berg (2010) have noted that in Finland the matriculation examination social studies exam effectively sets the criteria for social studies literacy in upper secondary school because it provides a normative operational interpretation of the vague objectives of social studies teaching in the national core curriculum. The expert team designing the exam questions thus has an important role. For example, if the questions do not invite students to reflect on the political dimension of economic questions, students (and teachers) will conclude that this dimension is not relevant to address in a social studies class. Thus we are (self-)critical of how the social studies exam questions in the matriculation examination may have failed to take up the issue of politics in the context of economy.

Having said that, we nevertheless suspect that the social studies classes could better prepare upper secondary school students to analyze connections between politics and economy. Earlier studies of Finnish adolescents' learning and skills in civics have shown that the connections between politics and economy are quite difficult for the young to picture. In a national evaluation of the 15-year-old adolescents' learning achievements in civics in 2011 the competence area where the young scored lowest was their ability to ponder on alternative political and economic decisions and their consequences (Ouakrim-Soivio & Kuusela 2011, 60). Also the Cived study, in 1999, showed that the links between politics and economy were difficult for the young to conceive (Suutarinen 2002, 11). The challenge is that the complexity of intertwining structures in society is particularly hard to analyse and conceptualize in relations that cut across politics and economy simultaneously. The exam papers we have analyzed do not challenge the conclusions in earlier studies, quite the contrary.

It is noteworthy that in a number of exam papers there are references to the 1990's Finnish economic crisis, as a point of comparison to the current situation. Here are some examples:

'In Finland the financial crisis didn't have as devastating or visible consequences as the depression in the 1990's, however, even though also in Finland aggregate production diminished more than [in the 1990's] [...]' (1068056)

'In addition, Finland decided to begin to lower taxes so as to start resuscitating economy quickly. The nightmare was the serious

of the early 1990's. [...] The state acted swiftly immediately when the signs of depression emerged.' (1068016)

'Finnish export plunged even deeper than in the depression in the early 1990's. [...] The state in Finland has increased its expenditure generously in the recent years, and it has taken a lot of debt so as to boost economy.' (1068014)

There is hardly any explicit information on the proportions of the current crisis in the exam papers. The exceptions are the cases where the students compare the crisis in the 1990's and in 2008. Such a comparison does not require any statistics, it suffices that the students know that the two crises land approximately at the same level. That is rather a general statement by the students, of course, but it is noteworthy that they would readily mobilize their knowledge of history in this context, albeit in a cursory manner perhaps. Social studies/civics as a school subject in Finland has had a close relationship with history, and social studies/civics teachers often resort to historical perspectives in a social studies class, thus it was not unexpected that there would be references to the 1990's Finnish crisis also in the exam papers that we have analyzed. Besides, the 1990's crisis was a traumatic experience, collectively and individually, to tens of thousands of Finnish people, and it is still often discussed in the media. In that respect the 1990's crisis can be assumed to be a frame that also many younger students readily think of when discussing the current crisis (cf. Berg 2010, 51-53).

Historical parallels between the crises in the 1990's and 2000's can be helpful to the students, however there is a risk of confusion between the two cases. It materializes in the following exam papers, for example:

'The crash created enormous problems for the US people (default payments) and it spread gradually [...] also to the rest of the world. The affiliate companies of the bad banks fell in many countries, leaving substantial debts behind. Also in Finland many banks collapsed and the customers were left without their money.' (1058141)

The last sentence is patently false. It is plausible that the student has confused the current situation with the crash in Finland in the 1990's when, unlike in the 2000's, some banks indeed collapsed. Historical examples can provide useful analogies in a social studies class, and the quotes earlier above speak in favour of using them, yet there is also a risk of confusion, in particular with students whose command of the subject matter remains fragmented.

The students' reflections upon the two expert quotes in the exam question sometimes indicate support to a Keynesian economic policy, sometimes reservations regarding expansive public finances. However there are no signs in the exam papers of a notion that the state should just let the markets 'rectify' the economic crisis. In fact, we find

examples to the contrary, as in the following statement:

'The state in Finland courageously took the bull by the horns and took to counter-measures, by lowering taxes and increasing public spending.' (1058083)

The contents in the exam papers that we have analyzed suggest that the students find 'the benign state' a more plausible notion than 'wisdom of the market'. This matches well with the findings in the international ICCS 2009 and Cived 1999 surveys where the Finnish 14-15-years-old adolescents' trust in the government and the parliament has been very strong (Schulz et al. 2010, 45-47.) In the Finnish version of the ICCS survey questionnaire in 2009 there was also the option 'the market forces' in the list of institutions whose trustworthiness the young were asked to assess. Interestingly, the market forces were judged as the least trustworthy institution of all, clearly less trustworthy than 'political parties', for example (Suoninen et al. 2010, 110-111). In addition it can be noted that in the 1999 survey the Finnish young were also inclined to give considerable economic and moral responsibilities to the state, for example in promoting employment (Suutarinen 2001). The Finnish young are not unique in this respect, however; in the 1999 Cived survey also the young in Sweden supported the notion of state having wide economic responsibilities (Suutarinen 2001, 48-49), and more recently Klee and Lutter (2010, 63) in a qualitative study of 11th grade students in Bremen concluded that there was among the Bremen students strong confidence in the positive role of the state in economic policy.

7 Strengths and weaknesses of the Finnish upper secondary school economic education in dealing with the financial-economic crisis

It is now time for a concluding assessment of the possibilities of the Finnish upper secondary school economic education to make the current financial-economic crisis intelligible and accessible to the students. The crisis has actualized important issues regarding the dynamics of the economic system, the relations between economy and politics, and the notions of good society and social justice. Thus the question of how school economic education supports students' understanding of this complex subject is exceedingly important. The task is demanding: school economic education should contribute towards students acquiring knowledge that is academically valid, socially relevant and also – we would argue – supportive of moral engagement. What are the strengths and weaknesses, or also the promises and challenges, in the Finnish upper secondary school economic education regarding teaching about the economic crisis?

Answering the question one has to consider a number of factors which influence and give shape to school economic education. Here we have discussed

some of them: the national core curricula, the textbooks, the teachers and the matriculation examination as a high-stakes examination at the end of the upper secondary school. We have also discussed, albeit briefly, the ideological climate where decisions about economy and economic education have been made in Finland in the last 20 years, and what earlier studies tell about Finnish adolescents' civic knowledge and attitudes. This is not, by any means, an exhaustive list but we would suggest it covers the major factors which play a role in the shaping of the Finnish upper secondary school economic education and, consequently, its strengths and weaknesses.

The *national core curriculum* for the economy course in upper secondary school that has been in force since 2003 is conceptually reasonably robust and clearly structured. It identifies the central concepts that are used for describing and analyzing economic processes and systems, but it does not provide a very detailed list of perspectives and issues that should be addressed in the class. Thus teachers (and textbook authors) are left with a fair amount of discretion in how to approach the subject matter and where to put more weight or less, regarding the allocation of time resources. This flexibility allows teachers, and to some extent also textbook authors, to respond to the needs of the moment and take up topics that can be expected to have immediate interest to the students. This is likely to result in students finding economy classes more rewarding and motivating. It is also noteworthy that in the current core curriculum the economy course is an obligatory course, thus basically all the upper secondary school students in Finland have to acquaint themselves with economic questions at that level.

However there are also some potentially problematic features in the core curriculum for economic education. The economy course is largely hinged upon the concepts of modern economics in a neo-classical tapping, and the political element of economy is only remotely present in the core contents of the course. There are two mandatory social studies courses in the core curriculum, one on politics, one on economy. Such a discipline-related division between the courses is understandable but it very easily takes politics too much out of economy which is negative, considering an issue like the current financial-economic crisis. The national core curriculum is renewed every ten years approximately and it is possible that some future arrangement of the social studies courses will allow addressing the connections of politics and economy more systematically in teaching, but that is not encouraged by the structure of the current core curriculum for social studies. One can add, though, that the core content of the economy course in the core curriculum focuses on national economy and economic processes rather than household economy and private finances. Such a 'theoretical' approach is in our opinion more promising than a seemingly practical emphasis on promoting citizens' financial literacy, as a strategy for decreasing the likelihood of economic crises in the future.

The *textbooks* for the upper secondary schools economy course are informative and rich in substance. Some books include more numerous topical elements than others, regarding the financial crisis for example. The use of such elements depends on the authors and publishers, the core curriculum does not put obstacles to it, and also the available technical solutions in layout make it easy to incorporate extra 'information boxes' or 'special pages' in the book, if only there is interest for it on the part of the authors and the publisher. The textbooks are mostly neutral in tone and avoid taking an open stand on issues that are controversial in economic policy. They often try to give voice to all the parties in the debate, and in that respect they can be considered non-partisan. However, as we have mentioned, in the textbooks there is sometimes an implicit tilt towards neo-classical interpretations in that these interpretations, for example regarding the risks of public debt, are not questioned but taken for granted. This is not surprising, considering that the conceptual framework offered in the core curriculum largely hinges upon concepts and models of neoclassical economics.

In general, the connections between politics and economy are hardly discussed in the textbooks. This reflects the divide between the realms of politics and economy in the core curriculum. In two recently published textbooks there are more of elements that invite students to a critical analysis of economic policies. Such elements are however usually placed in the rehearsing questions or in additional information, thus they may become disregarded by the students as not really substantial economic 'hard facts'. It remains to be seen if such elements will continue to gain ground in the textbooks and if they also will be allowed to feature in the body text more than hitherto. Relegating such elements to the 'additional' parts in the textbooks is likely to sustain the image that controversies on economy are not an essential part of economic decision-making and discussion.

The teachers who are responsible for economic education in Finnish upper secondary schools have usually majored in history, thus they are often better able to discuss the history of economic developments than economics as such. An historical perspective on economy has been welcomed by critics of mainstream neo-classical economics as a corrective against 'utopian' (Cassidy 2009) formal models of economic behaviour. History, from that point of view, should warn against simplifying theories of rational choice and against presumptions of 'final truths' in economics. Finnish social studies teachers probably consider themselves historians more than social scientists, because of their academic background. As we mentioned earlier, they are rarely specialists in social sciences, and very rarely specialists in economics, hence they are not likely to be very well acquainted with the epistemology and methodology of economics. This entails that their competence to analyse economic developments and controversies in economics may

be fairly limited. Let us remember that civics teachers themselves in a recent survey saw economy as an area where they judged their need for additional training acute (Ouakrim-Soivio, Kuusela 2012, 33). On the one hand it is certainly a handicap if the competence of an economy teacher to scrutinize critically arguments about economy is limited, on the other hand it has been pointed out that economists, on their part, have often assumed uncritically the dogmas of their science which has resulted in massive miscalculations, as witnesses the recent financial crisis. A social studies teacher whose main competence area is in history is thus not necessarily less capable of posing penetrating questions about economy than an economist who does it from within the paradigms of economics. Also elsewhere there have recently been suggestions that economic education should more often include also perspectives in sociology, philosophy and economic and political history so that the students would have better opportunities to see the historicity and contextuality of economic 'truths' (Ötsch, Kapeller 2010, 23). As Hans-Georg Gadamer (1988) has pointed out, such a historical consciousness is an essential prerequisite for social change.

Among Finnish social studies teachers there is at least some support for the view that they can encourage their students' interest in politics, some of the textbooks authored by teachers themselves indicate that. But as long as the national core curriculum and, consequently, the textbooks give only a very limited space to political education and education in political literacy the teachers are not likely to feel happy about spending too much time on the subject. This connects with the issue of student evaluation that we will discuss below. If the number of social studies teachers who have majored in social sciences will slowly increase, as it seems to do, there can be fruitful exchange between social sciences and history specialists in school. At the moment, however, it seems that these social scientists will mostly come from the field of political science, sociology or social policy, but not economics, which will leave economic education in school in the hands of 'amateurs' also in the future. But as we pointed out, this is not necessarily negative in itself.

In the social studies exam in the *matriculation examination* approximately one third of the questions is usually related to economy. Thus economy, as a subject area, has rather a strong foothold in the exam which is likely to be a motivating factor at least for the upper secondary school students who consider taking the social studies exam. Some of the questions in the social studies exam include material that the student has to scrutinize critically. Often the material consists of one or more political statements and there may be tensions between them that the student has to identify and analyze. Thus there is the idea that the issue of political conflicts is recognized and addressed in the exam. However, the questions in the social studies exam seldom explicitly ask the

student to consider the political aspects of economy. Also in the question that we have discussed in this paper there is actually no explicit invitation to that effect. This is unfortunate because the matriculation examination social studies exam, as a high-stakes examination, is an authoritative message to teachers and to students about the subjects and competences that are important to study in a social studies class. If the exam questions do not openly request students to ponder on the politics of economy, for example, students (and teachers) will not find politics of economy worthwhile to discuss in the social studies class.

It is a question in its own right, however, as to how popular the questions requesting political analysis would be among students and what kind of students would choose to answer them. One may conjecture that in a high-stakes examination achievement-orientated students dislike questions where the criteria for the 'right' answer appear difficult to pin down accurately. Exam questions where one has to assess political or economic arguments are often in this category because there it is difficult to give the kind of model answer as in questions where one has to give proof of mastering a set of facts. As a high-stakes test, the matriculation examination social studies exam has limitations as an instrument that would encourage students to show their competence to reflect upon controversial political and economic issues.

Also *students* can be regarded as a factor which contributes to the shaping of school education, economic education included. As we mentioned earlier, Finnish young at the age of 14 years have ranked the global top among their peers in civic knowledge and competences in the international surveys in 1999 and 2009. It seems reasonable to assume that this should provide a good theoretical basis for a study of politics and economics in upper secondary school. Compared to the whole population in the age group 18-30 years, upper secondary school students' knowledge in politics has been characterized as 'high' (Rapeli 2010, 129). The studies of 14-years-old adolescents have also shown, however, that in civics the biggest challenges for the young are to understand connections between politics and economics and to compare alternative political or economic decisions and their consequences. These challenges are likely to exist also among the 16-18-years-old upper secondary school students, and some recent qualitative studies also suggest this (van den Berg 2010). In this perspective teaching issues like the current financial crisis can be assumed to pose considerable challenges in Finnish upper secondary schools.

As a concluding remark, the two key points we think are important for sustaining and developing the capability of the Finnish upper secondary school economic education to address topics like the current financial crisis are, firstly, the presence of historical perspectives in social studies teaching and, secondly, the presence of political or also sociological analyses in economic education. The first has always been part of social studies teaching in

Finland, due to the institutional history of the discipline, and it is likely to remain so also in the future, considering the academic background of social studies/civics teachers. The second point, however, is an ambition rather than reality, considering the impediments which have to do with the current curricular structures in social studies and the disciplinary tradition of discussing economy as a system of impersonal logical mechanisms more than a congregation of often whimsical human actors with vested interests. Paying attention to these two points in the social studies class would help the students to think of the variety of alternatives that always exist in economic decision-making. That would place the focus more consciously on what we think is the crucial question in economic education in the first place: what are the aims of economic activity, and what are the objectives that citizens, individually and collectively, have when engaging in economic activity? After all, economy is part of society rather than the reverse, and we believe this perspective should come out more strongly also in the fundamentals of school economic education.

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Endnote:

¹ The data is derived from the statistics of the matriculation examination exams in social studies, 2009-11, provided by Alex Hellsten in the Board of Matriculation Examination. We are thankful for his generous help.

Tadayoshi Asano, Michio Yamaoka, Shintaro Abe

The Quality and Attitude of High School Teachers of Economics in Japan: An Explanation of Sample Data

Keywords:

high school economics teachers, economic education, teaching ability, questionnaire survey, sample data

Students' economic literacy depends on the content they learn in school as well as at home. It also depends on teachers' ability to teach and explain economic concepts and principles in a way that students can understand them. But, it is very doubtful whether all the high school teachers of civics who teach economics have adequate knowledge and good teaching skills in economics. The authors know that only a few civics teachers in Japan have studied economics as a major subject when they were undergraduate students.

In order to investigate these views, the authors conducted a nationwide survey using a questionnaire concerning personal attributes, attitude toward economic issues, and thinking about economy and economics of high school teachers of civics in Japan in 2009. 1,574 samples were collected out of around 14,000 civics teachers from every prefecture in Japan, and their answers were turned into data set for analysis. These samples proved to have high external validity representing their population, and the results of our analysis reveal the characteristics of Japanese high school teachers of civics teaching economics.

The findings of our survey will help improve the quality of economic education in Japan, especially the quality and attitude of economics teachers in high school.

1 Introduction: the purpose of the survey

The authors conducted the Test of Economic Literacy, the third edition (TEL3), Form A for high school students in Japan in 2001. The test was developed by Dr. William B. Walstad, University of Nebraska, Lincoln, and Dr. Ken Rebeck, St. Cloud University, and was administered for high school students in the United States in 1999 and 2000. The authors analysed and compared the test results in Table 1 between Japan and the United States, and found out some features of economic literacy among Japanese high school students.

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Japanese students got a lower score than American students by around three points in overall test scores, and got an even lower score than American students who had studied economics (with economics) in school, in particular. Japanese students showed almost the equal score as American students who had not studied economics (without economics), and the difference between them is only one point. This is because, the authors think, some economic concepts and principles, which are asked in items of TEL3, were taught to American high school students, but not in Japan. It is proved by the test results in the United States that students' experience in learning economics (with/without economics) in high school has a significant effect on their economic literacy.

In contrast to the United States, Japanese students learned such economic content in school as economic systems, the role of households and firms, the function of the market economy and financial sector, postwar economic growth of Japan, and international trade and international economic regime in the postwar period, as well as some facts and problems Japan faced, such as energy, agriculture and food, environment, and social security. They had scarcely learned fundamental economic concepts and principles, for example, scarcity, trade-off, choice, opportunity cost, etc., in school except the law of demand and supply, and the principle of comparative advantage; therefore their test performance may have been worse than American students with economics.

Besides students' experience in learning economics, there may have been other factors which had some effect on their economic knowledge and understanding. The authors found out that students' general scholastic ability, which can be judged alternatively from the social prestige of their schools, had heavier weight with their test performance than their learning experience in economics in Japan. Then the authors thought that teaching

ability or skill of economics teachers may have been related to students' understanding of economic contents in class. It is quite doubtful whether the Japanese high school teachers have ample economic knowledge and better teaching skill in economics, because the authors know that only a few of them had studied economics as a major subject when they themselves were undergraduate or graduate students.

To prove this, we conducted a nationwide survey in 2009 by distributing questionnaires to economics teachers in high schools and secondary schools¹ in Japan. This article tries to explain some sample data collected by the survey and reveal the real image of high school economics teachers in Japan for the first time.

	United States	Japan
Number of students (Samples)	3,288	2,631
with economics	2,619	—
without economics	669	2,631
Mean Score (Full mark is 40)		
Overall	23.85	20.8
with economics	25.07	—
without economics	19.05	20.8
Coefficient α	0.89	0.81
Standard Error of Measurement	2.76	2.87

Table 1: Results of TEL3, Form A

Source: For US data, Walstad, William B.; Rebeck, Ken. 2001. Test of Economic Literacy, Third Edition, Examiner's Manual. New York: National Council on Economic Education. For Japanese data, Asano, Tadayoshi (2003) Economic Literacy of Japanese High School and University Students: An International Comparison Based on TEL3. In: The Bulletin of Yamamura Gakuen College, No.15, 1-59.

2 The range of the survey

We sent out the questionnaires to 5,178 high schools and secondary schools in total, three copies of questionnaire per school, by post between August and October in 2009. It is thought that every high school and secondary school has one to three teachers who are qualified to teach economic contents in the individual subject of 'Contemporary Society' and/or 'Politics and Economy.' These two subjects and 'Ethics' belong in the subject area of 'Civics,' and students are required to take either 'Contemporary Society' only or a couple of subjects: 'Politics and Economy' and 'Ethics.' Before 'Civics' was separated from 'Geography and History' in 1989, 'Social Studies' had combined these two areas into one. In 1994 the teacher's certificate of 'Social Studies' was divided into 'Geography and History' and 'Civics.' Those who had obtained a teacher's certificate of 'Social Studies' were qualified to teach economic content even after the division of the subject area 'Social Studies,' and their qualification is still effective.

Since 1994 when the teacher's certificate of 'Social Studies' was divided into two subject areas, only those who obtained a teacher's certificate of 'Civics' have been qualified to teach economic content. Accordingly those who have a teacher's certificate of 'Social Studies' or 'Civics' are qualified to teach economic contents today. This confuses measurement of the exact number of

economics teachers, the population of the questionnaire survey, who actually teach economic contents in high school and secondary school in Japan, and nobody knows the real figure. Even the Japanese Ministry of Education (MEXT)² does not have an exact statistic of it, and the authors estimated it by the number of civics teachers who teach any subject of 'Civics' area on the government report (MEXT 2009a).

The total number of high school teachers in Japan was 215,023 in 2009 and among them the percentage of civics teachers was 6.4 %; consequently the number of civics teachers in high school was 13,761. As for secondary schools, its total number of teachers was 1,029 and among them the percentage of civics teachers was 3.5 %, therefore the number of civics teachers in secondary school was 36. The sum of civics teachers in high school and secondary school was 13,797. The respondents (samples) to the survey are 1,574, and the sampling fraction (the sampling rate) is 11.4 %, which is 1,574 divided by 13,797. But, the government report classifies even non-civics teachers, who teach any one subject in 'Civics' area as well as their proper subject(s), as civics teachers. Actually some economics teachers who have a teacher's certificate of 'Social Studies' belong in non-civics areas such as 'Geography and History,' while they are, at the same time, counted in the 'Civics' area, too. This complicates an exact counting both of the civics teachers and of the population of economics teachers, and also the computing of the sampling fraction.

The authors could collect responses to the survey questionnaire from every prefecture of the country; the smallest number of responses (respondents) is eight from Saga prefecture and the largest one is 145 from metropolitan Tokyo. The average number of responses from one prefecture is 33.5 and this is one of reasons why the collected samples of this questionnaire survey have external validity, which means that the samples are quite representative of the population.

3 Contents of the survey questionnaire

The survey questionnaire on quality and attitude of high school economics teachers consists of 29 questions, which are classified into five categories: their present position, their career, their learning experience in economics as undergraduate students, their instructional practice, and their personal attributes and qualities of their school. Individual questions are shown in Table 2.

In this paper, the authors have picked out 18 questions for analysis by simple tabulation. These questions are Nos. 1, 2 and 3 which relate to respondents' present position, Nos. 4 and 5 which relate to respondents' career, Nos. 6, 7, 10, 11 and 12 which relate to respondent's educational background, No. 22 which relates to respondents' thinking about economy and economics, and Nos. 23, 24, 25, 26, 27, 28 and 29 which relate to respondents' profile (demographic information) and characteristics of their schools.

Question	Question Formats
I. About your present post	
1 What subject do you teach?	partially close-ended (precoded)
2 Do you have a homeroom class now?	yes/no
3 How many years have you worked as a teacher?	modified open-ended
II. About your career	
4 Did you have another job prior to becoming a teacher?	yes/no
5 What kind of job did you have prior to becoming a teacher?	partially close-ended (precoded)
6 What kind of school did you graduate from last?	partially close-ended (precoded)
7 What subject did you major in at the above school?	partially close-ended (precoded)
8 What division and/or major field did your department in the school have?	open-ended
9 What was your course of study and major when you were a graduate student?	open-ended
III. About your learning experience	
10 Have you learned "economy" or "economics" at the higher education level?	close-ended (precoded)
11 What kind of economics did you learn, when you learned it at the higher education level?	partially close-ended (precoded)
12 Which subject did you take in the area of economics?	partially close-ended (precoded)
13 What did (do) you do for learning economics, besides taking a class in an educational institution?	partially close-ended (precoded)
IV. About your instructional practice	
14 What kind of textbook do you use for teaching economics this year?	open-ended
15 Do you use any teaching materials or aids besides a textbook?	partially close-ended (precoded)
16 Do you feel easy or hard to teach the following topics in an economics textbook?	partially close-ended with rating on a scale of 1-4
17 Why do you feel hard to teach the above specific topics?	open-ended
18 What do you do for teaching economics in your class besides giving a lecture?	partially close-ended (precoded)
19 What difficulties or dissatisfactions do you have in the economics class?	partially close-ended with rating on a scale of 1-4
20 What do you expect students to acquire as a result of learning economics?	close-ended with rating on a scale of 1-4
21 What is your pleasure of teaching economics to students?	close-ended with rating on a scale of 1-4
22 There are different opinions or thinking about economy or economics. What do you think about the following issues?	close-ended with rating on a scale of 1-4
V. About yourself and your school	
23 Gender	close-ended (precoded)
24 Age	close-ended (precoded)
25 Type of school foundation (national, public, or private)	close-ended (precoded)
26 Location of your school	partially close-ended (precoded)
27 Type of school course (day school, evening school, or correspondence school)	close-ended (precoded)
28 Type of curriculum course of your school	partially close-ended (precoded)
29 Percentage of students going on to four-year college or university after graduation from your school	close-ended (precoded)

Table 2: Questions of the survey

4 Results of the questionnaire survey

4.1 Respondents' profile

Table 3 shows respondents' distribution by gender. Among economics teachers, about 13 % are female and 87 % are male. This corresponds to the gender ratio for public high school economics teachers in metropolitan Tokyo; 12 % are female and 88 % are male (n=259) in 2009 (Tokyo Metropolitan Board of Education 2009). One of the features of economics teachers in Japanese high school is that the overwhelming majority of them are male.

Gender	Responses	Percentage
Female	203	12,9
Male	1.371	87,1
Total	1.574	100,0

Age	Responses	Percentage
20's	169	10,7
30's	405	25,7
40's	511	32,5
50's	448	28,5
60's	39	2,5
Unknown	2	0,1
Total	1.574	100,0

Table 3: Respondents by gender

Table 4: Respondents by age

Table 4 shows respondents' distribution by age. Teachers in their 40's occupy about one third of the

total samples, and teachers in their 30's and 50's amount to a little more than one fourth respectively. Teachers of these ages make up 86.7 % of all the samples. The authors can ascertain the fact from the official statistics of the distribution by age of civics teachers that the sum of high school civics teachers in their 40's and 50's makes up more than 70 % of civics teachers of all ages, and that the sum of secondary school civics teachers in their 30's 40's and 50's takes more than 80 % of civics teachers of all ages in secondary school.

Figure 1 shows a working period (tenure) as an economics teacher. The shortest period is one year and the longest period is 50 years³. The mode (the highest value in frequency distribution) is 25 years for 85 respondents, the median (the middle value) is 20 years for 82 respondents, and the mean is 18.6 years for all the samples (n=1,560, no response for 14 respondents). The government report (MEXT 2009a) discloses that the average working period of a high school teacher as a fulltimer is 19.4 years and 14.2 years for a secondary school teacher. This average value among high school teachers in all the subject areas, in particular, is close to the mean value of all the samples in the questionnaire survey.

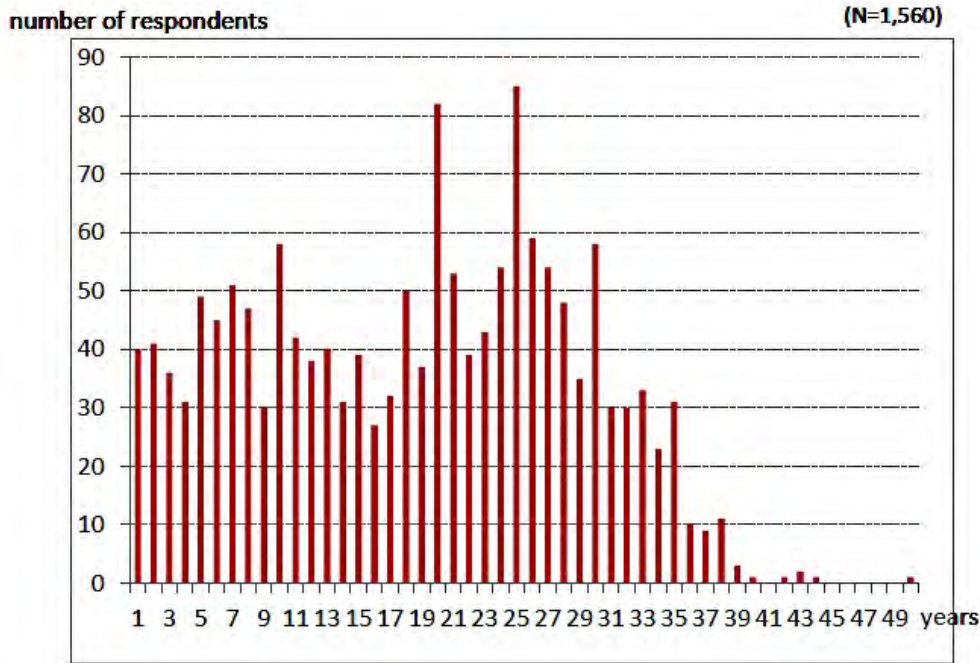


Figure 1: Working period as an economics teacher

Table 5 shows the number of respondents who had any other job prior to becoming an economics teacher. About one fourth of respondents had previous jobs, and the rest of them became a high school teacher soon after graduating from university. The previous jobs are shown in Table 6.

	Responses	Percentage
Yes, had another job	401	25,5
No, did not have another job	1.148	72,9
No response	25	1,6
Total	1.574	100,0

Table 5: Working experience

Industry	Responses	Percentage
Agriculture & Fishery	4	1,0
Mining & Construction	13	3,2
Manufacturing	49	12,2
Public services	4	1,0
Information & Communication	28	7,0
Finance & Insurance	53	13,2
Transportation	10	2,5
Wholesale and retail	68	17,0
Real estate	3	0,7
Medical & Welfare service	9	2,2
Education	104	25,9
Civil service	51	12,7
Other	78	19,5
Total	401	100,0

Table 6: Previous jobs

4.2 Present post and school characteristics

The 'Civics' area in high school consists of three subjects: 'Ethics,' 'Contemporary Society' and 'Politics and Economy.' Some teachers teach all these three subjects and some teach economy-related subjects only: 'Contemporary Society' and 'Politics and Economy.' Some teachers who have a teacher's certificate of 'Civics' as well as that of any other subject area or have former teacher's certificate of 'Social Studies,' whether or not they are in the 'Civics' area, are qualified to teach any subject in the 'Civics' area.

Table 7 shows subjects which respondents taught in their high school or secondary school at the time of the questionnaire survey. The two largest subjects are 'Contemporary Society' and 'Politics and Economy' in the 'Civics' area, which include economic content. It is apparent that a considerable number of economics teachers also teach some subject(s) in the area of 'Geography and History': 'Japanese History,' 'World History' and 'Geography,' because they have a teacher's certificate of both 'Civics' and 'Geography and History' or that of 'Social Studies' only. This implies that there is not the least number of economics teachers who belong in the subject area of 'Geography and History,' not in 'Civics.'

Only ten percent of economics teachers teach 'Ethics,' because, the authors think, it has quite different content from 'Contemporary Society' and 'Politics and Economy.'

(n=1,574)

Subject	Responses	Percentage to n
Contemporary society	1.131	71,9
Politics and economy	714	45,4
Japanese history	415	26,4
World hisotry	533	33,9
Geography	299	19,0
Ethics	165	10,5
Other	146	9,4

Table 7: Teaching subjects

Table 8 displays the respondent's position as a homeroom teacher, and Table 9 displays the grade of their homeroom class. 683 respondents have a homeroom class and their grade is divided almost evenly among the first (Year 10), the second (Year 11) and the third grade (Year 12) of high school.

	Responses	Percentage
Yes	683	43,4
No	888	56,4
No response	3	0,2
Total	1.574	100,0

Table 8: Homeroom teacher

Grade	Responses	Percentage
1	249	36,5
2	209	30,6
3	209	30,6
4*	16	2,3
Total	683	100,0

Table 9: Grade of homeroom class

Note *: The fourth grade in high school is for evening school and correspondence school.

This survey reveals some characteristics of respondents' schools. Table 10 shows the type of the foundation of school and Table 11 shows the type of the course of the school. 70 % of the respondent's schools are publicly founded by local governments like prefecture and city, and 30 % are private. In reality, public schools make up 74.1 % and private schools make up 25.5 % among the total number (5,225) of high school and secondary school in Japan according to the government survey (MEXT 2009b). The distribution of responses by the type of the foundation of school has likeness to its actual statistics of high school and secondary school in Japan, which reinforces the external validity of this questionnaire survey.

The distribution of responses by the type of the school course also reflects the actual fact of Japanese high school. As for secondary schools, there were 42 day school courses only in 2009, of which four schools are national, 25 schools are public and 13 schools are private.

Japanese high school has various curriculum courses, which are categorized mainly into three types: general education course, vocational course, and integrated course. Table 12 shows the distribution of responses (respondents) by the type of the curriculum course in high school. the vocational course is broken down into subcategory, such as commerce, industry, and others. General education

Type	This Survey		Actual Statistics*	
	Responses	Percentage	Schools	Percentage
National	1	0,1	20	0,4
Public	1.099	69,8	3.871	74,1
Private	470	29,9	1.334	25,5
Other	3	0,2		
No response	1	0,1		
Total	1.574	100,0	5.225	100,0

Note *: Actual statistics are cited from the MEXT. 2009. School Basic Survey 2009.

Table 10: Type of the school

Course	This Survey		Actual Statistics*	
	Responses	Percentage	Schools	Percentage
Day	1.511	96,0	4.493	93,3
Evening	42	2,7	192	4,0
Corresponder	19	1,2	87	1,8
No response	2	0,1		
Total	1.574	100,0	4.772	100,0

Note *: The source is the same with Table 10. The values are sum of high school and secondary school, but combined school is excluded from this statistics.

Table 11: Type of the school course

course takes the most, 62.8 %, and its actual percentage is 56.1 % of the entire total (7,090) of high school curriculum courses in Japan; that of commerce course is 10.1 %, that of industry course is 8.1 %, that of integrated course is 4.7 %, and so on, based on the government survey (MEXT 2009b). Responses to this question of the survey are also thought to be representative of the characteristics of the population.

Course	Responses	Percentage
General education (GE)	988	62,8
Vocational	198	12,6
Commerce	67	4,3
Industry	82	5,2
Other	49	3,1
Integrated	117	7,4
Combined GE and vocational	216	13,7
Other	54	3,4
No response	1	0,1
Total	1.574	100,0

Table 12: Type of the curriculum course

One item of the survey questionnaire asked recipients about the percentage of their students who went on to four-year college or university after graduation. This question has a relationship with the social prestige of their school itself; the higher the percentage, the higher the prestige of their school. Table 13 shows the percentage and it gives us an interesting result. Responses were distributed almost evenly to every percentage range but 'more than 90%,' which suggests that respondents came almost equally from different high schools and secondary schools at every level of education (students' achievement) and social prestige.

Percentage range	Responses	Percentage
less than 10 %	263	16.7
10-29 %	290	18.4
30-49 %	195	12.4
50-69 %	213	13.5
70-89 %	212	13.5
more than 90 %	364	23.1
Don't know	31	2.0
No response	6	0.4
Total	1,574	100.0

Table 13: Students going to 4-year university

4.3 Learning experience of economics

The authors know that only a few economics teachers have learned economics in university, but it has never been proved with concrete and positive data. This questionnaire survey is expected to prove it. Table 14 displays respondent's educational background, which proves that about 70 % of economics teachers have a bachelor's degree of four-year university as their highest educational qualification, and that only 11 % of economics teachers graduated from a four-year teachers college.

Table 15 displays respondent's major field in their highest educational institution. Economics majors are 23.7 %, a little less than one fourth, of respondents of economics teachers in high school and secondary school. About three fourths of respondents have not learned economics as a major field, and this would have more or less effect on student's understanding of economics.

(n=1,562)		
School	Responses	Percentage
2-year College of Technology	2	0.1
4-year Teachers college	169	10.8
4-year University	1,070	68.5
Graduate school (Master)	273	17.5
Graduate school (Doctor)	36	2.3
Other	12	0.8
Total	1,562	100.0

Note: "No response" is excluded in this table.

Table 14: Educational background

(n=1,574)		
Major	Responses	Percentage
Education	266	16.9
Economics	373	23.7
Management/Business administration	62	3.9
Commerce	38	2.4
Politics	107	6.8
Home economics	4	0.3
Literature	171	10.9
Law	254	16.1
Sociology	150	9.5
Foreign languages	4	0.3
Other	315	20.0
History	124	7.9
Philosophy	51	3.2
Geography	44	2.8
Total*	1,744	110.8

Note *: 135 respondents have more than two major fields, and the total number of responses exceeds the actual number of respondents.

Table 15: Major field

Table 16 displays respondent's learning experience of economics at the higher education level. 40% of the respondents have learned economics as a major subject, and 45% of them have learned economics not as a major subject, but as a general education subject. Worst of all, 12% of them have never learned economics, and it may be because the Teachers License Act has allowed a college student to take and learn sociology instead of economics for becoming a social studies or civics teacher.

(n=1,574)

	Responses	Percentage
Yes, learned economics as a major	630	40.0
Yes, learned economics not as a major	715	45.4
No, never learned economics	186	11.8
No response	43	2.7
Total	1,574	100.0

Table 16: Learning experience of economics

Table 17 displays the type of economic theory which the respondents learned at the higher education level. Two thirds of the respondents (n=1,343) learned modern or mainstream economics⁴, and about 20 % of them learned Marxian economics only. Any elements of Marxian economics are not included in a textbook of high school and secondary school, but the Marxian way of thinking and the Marxian thinking of economics may have some influence on their instruction in class.

(n=1,343)

Type	Responses	Percentage
Modern (Mainstream) economics	867	64.6
Marxian economics	246	18.3
Both Modern and Marxian economics	119	8.9
Other	111	8.3
Total	1,343	100.0

Table 17: Type of economic theory learned

(n=1,345)		
Subject	Responses	Percentage
Microeconomics	433	32.2
Macroeconomics	598	44.5
Principles of economics	1,045	77.7
Economic Policy	472	35.1
International economics	478	35.5
Econometrics	88	6.5
Finance	366	27.2
Monetary economics	356	26.5
Statistics	279	20.7
Japanese economy	437	32.5
Labour economics	211	15.7
Home economics	11	0.8
Other	130	9.7
Total*	4,904	364.6

Note *: Respondents can respond to every applicable choice, so the total number of responses exceeds the actual number of respondents.

Table 18: Economic subjects learned

Table 18 displays economic subjects the respondents (n=1,345) have learned. 78 % of them took 'Principles of Economics,' which has been standard as an introductory subject for both

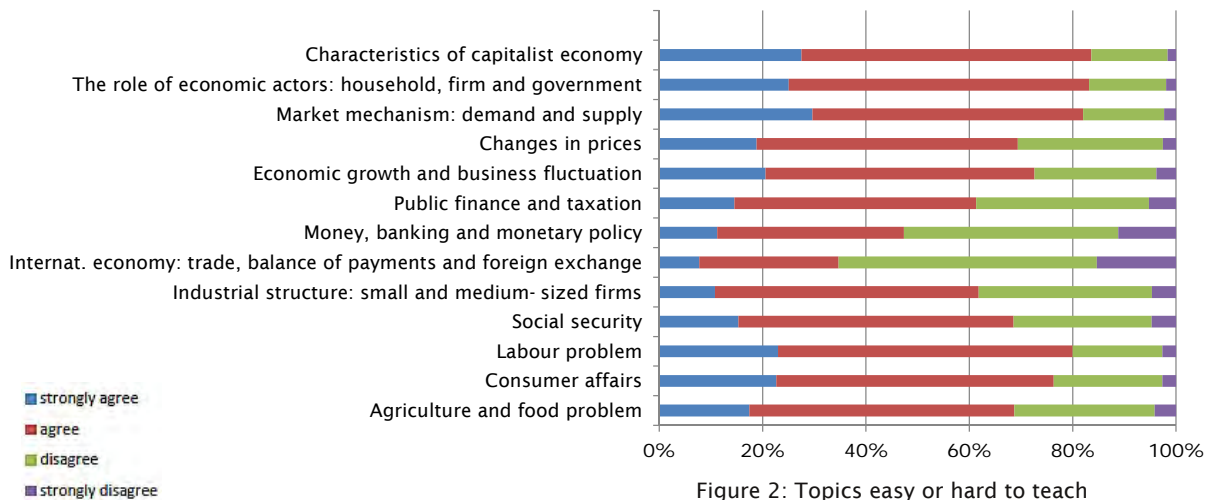


Figure 2: Topics easy or hard to teach

economics majors and non-economics majors. It should be noted that some subjects called 'Principles of Economics' fall under Marxian economics depending on the curriculum of college and university. 'Microeconomics' and 'Macroeconomics' are the core of modern or mainstream economics, and 'Economic Policy' and 'International Economics' are typical subjects of applied economics in modern economics.

4.4 Teacher's quality and attitude toward economic issues

Some questions in the questionnaire are asked to find out high school and secondary school teacher's quality, thinking about economy, and attitude toward some economic issues. Figure 2 shows economic topics in a textbook which economics teachers themselves think easy or hard to teach.

The majority of the respondents think the topics of 'Money, banking and monetary policy' and 'International economy' are difficult to teach. This corresponds interestingly with the results of assessment tests of economic and personal financial literacy which the authors conducted several times to

Japanese high school students⁵. The test results showed that the students had relative weakness in monetary and international economic problems.

More than 60% of respondents think the topics of 'Changes in prices,' 'Public finance and taxation,' 'Industrial structure,' 'Social security,' and 'Agriculture and food problem' easy to teach. More than 70% of them think the topics of 'Economic growth' and 'Consumer affairs' easy to teach. More than 80% of them think the topics of 'Characteristics of capitalist economy,' 'The role of economic actors,' 'Market mechanism,' 'Labour problem,' and 'Pollution and environmental problems' are easy to teach.

Figure 3 shows some difficulties and dissatisfactions they had in class and expected to be solved for better economic education and learning. The biggest difficulty and dissatisfaction is about 'Shortage of class hours.' One class hour (period) lasts 50 minutes and 70 hours are allotted to any course in the 'Civics' area by the present Course of Study (National Curriculum). Regarding the subject of 'Politics and Economy,' half the course hours, that is, 35 hours at the maximum are allotted to teaching economic contents in a year.

The majority of the respondents agree with the

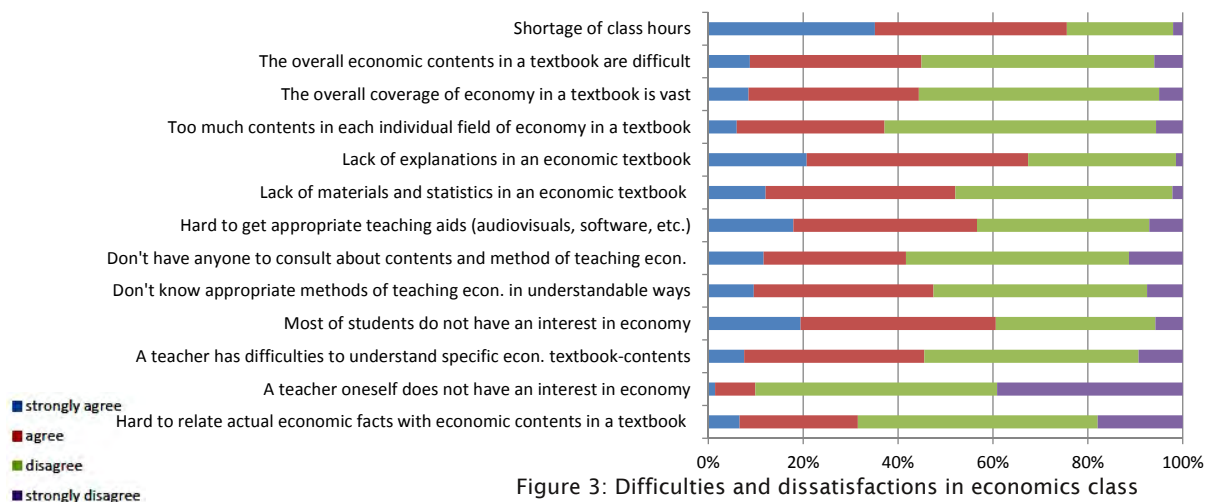


Figure 3: Difficulties and dissatisfactions in economics class

statements 'Lack of explanations in an economic textbook,' 'Most of students do not have an interest in the economy,' 'Hard to get appropriate teaching aids (audiovisuals, software, etc.),' and 'Lack of materials and statistics in an economic textbook.' 46-47 % of them agree with 'Do not know an appropriate method of teaching economics to students in the understandable way,' and 'Even a teacher oneself is unable to understand specific content in a textbook.'

Figure 4 shows their attitude toward some typical economic issues which have been discussed among not only teachers and scholars, but also economists, politicians, business people, and common citizens in Japan.

First, more than 70 % of the respondents agree that 'The freedom of economic activities should be secured for both people and firms,' whereas more than 80 % of them disagree that 'All economic transactions should be left to the market mechanism.' Similarly, 45 % of the respondents agree that 'Both firms and consumers gain from economic transactions,' whereas more than 70 % of them agree that 'Consumers will suffer damage by unrestrained activities of firms.' Consequently, their thinking sometimes has inconsistency within themselves.

Secondly, while more than 70 % of the respondents agree that 'The freedom of economic activities should be secured for both people and firms,' more than 60 % of them disagree that 'Inefficient firms should be eliminated from the market through competition.' This suggests that the majority of them have ambivalence about the function of the market, because they have sympathy

with the precondition of free and competitive market on the one hand, whereas they do not have sympathy with its consequences on the other hand. However, more than 80 % of them disagree that 'All economic transactions should be left to the market mechanism,' and about 70 % of them agree that 'The market mechanism is not good enough because it brings economic disparity.' This implies that they are skeptical about the market mechanism and they have a view against it, therefore they have ambivalence about it as is mentioned above although they understand it as the core of the capitalist economic system. In a sense, they are considered to be a kind of Keynesian.

Thirdly, 53 % of the respondents disagree that 'Profit-maximisation is most important for a firm,' and 54 % of them agree that 'Excessive moneymaking is not desirable for people or for a firm either.' The majority of them (53-83 %) agree that 'The higher rate of income tax should be imposed on a high-income earner,' 'The market mechanism is not good enough because it brings economic disparity,' 'Disparity in lifetime income caused by different educational background is not desirable,' 'People's living standard should be equal as much as possible,' and 'Economic justice and equity should be preferred to efficiency through competition.' This means that the majority of economics teachers are equality- and equity-oriented in Japan. They are idealists and egalitarians rather than realists, and they are often critical of government policies.

Fourthly, a small percentage of the respondents (17-26 %) agree that 'People had better not invest their money in stocks,' and 'Investment in stocks should not be taught to high school students.' More

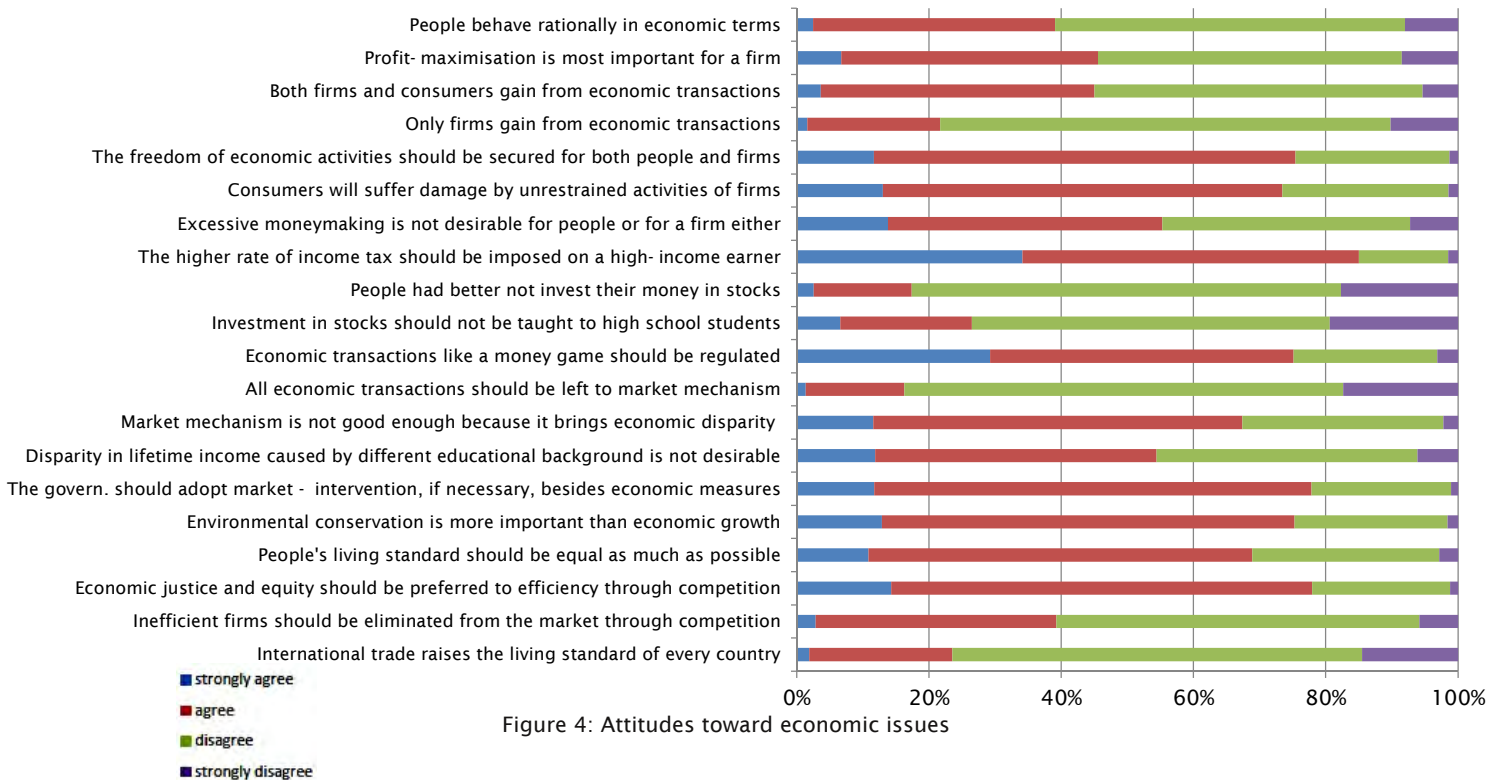


Figure 4: Attitudes toward economic issues

than 70 % of them agree that 'Economic transactions like a money game should be regulated,' and 'The government should adopt intervention in market transactions, if necessary, besides taking economic measures.' This means that most of them are friendly to investment in stocks but critical of money games or speculation.

Fifthly, more than 70 % of them agree that 'Environmental conservation is more important than economic growth,' and 'Economic justice and equity should be preferred to efficiency through competition.' This implies that they do not stand up firmly for the idea that economic growth should have priority over any other economic policies.

Lastly, 70 % of them agree that 'Both firms and consumers gain from economic transactions.' Only 23 % of them, however, agree that 'International trade raises the living standard of every country.' These two statements have a different expression but the same connotations, and the respondents have an inconsistent view between domestic trade and international trade.

5 Conclusion

The questionnaire survey was projected to disclose the real nature of economics teachers in high school and secondary school in Japan. The authors could gather enough samples (respondents) to form a true image of those teachers. Their standard profile and characteristics as economics teachers, their qualities, thinking about economy, and attitude toward some economic issues were revealed for the first time based on the statistical data by this survey as is mentioned above.

A few of the economics teachers have never studied economics at all in college or university, and many of them have had difficulties in teaching economics in class. In general, they have an egalitarian view about economic issues, such as people's income and living standard in particular, they are critical of money game and moneymaking, they do not have much trust in the market mechanism, they consider government's intervention in the market to be correct or want to prevent such undesirable results of the free market transactions as economic disparity and money game, and they have inconsistent opinions between a free, competitive market and its consequences and between domestic trade and international trade.

Such characteristics, qualities and attitudes of economics teachers may have more or less effect on their economic instruction and, in turn, on students' understanding of economy. For instance, teacher's poor knowledge and understanding of monetary problems and the international economy may cause student's low literacy in the topics of the same field. Therefore, continuous training to teachers is necessary to improve their economic literacy and teaching skills as well as student's economic literacy.

Moreover, the questionnaire survey discloses that civics teachers have difficulties in and dissatisfactions with teaching students about the economy, especially in class hours and with the textbook.

Class hours are limited for the volume of economic contents to teach, and the contents of a textbook are unsatisfactory both in volume and in description. Explanations of economic themes in a textbook are reduced to a minimum, and a certain school inspector in the MEXT has stated before that economics teachers should read between the lines in a textbook and teach what they read to students. But it may be relatively hard for those teachers with less economic literacy to do so. Improvement in description of economic contents in a textbook as well as in their literacy is necessary to better economic instruction for teachers and to better economic learning for students.

As for Japanese high school students, they like 'Civics' least of all the subject areas (25.8 %, n=4,464), and they also understand what they learn in the 'Civics' class least of all (24.6 %).⁶ Consequently it is indispensable to make the subjects ('Contemporary Society' and 'Politics and Economy') more interesting and understandable to students. The accomplishment of this mission depends entirely on civics teachers.

In conclusion, improvement in teachers' competence for their task, increased class hours and textbook for economic instruction, and heightening students' interest in and understanding of economic matters should be encouraged for better economic education and learning.

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Endnotes:

¹ A high school is a three-year school for students aged 16-18 years, and a secondary school is a combined school of junior and senior high school for students aged 13-18 years. See the MEXT. 2006. Japan's Education at a Glance 2006.

² It is properly called the Ministry of Education, Culture, Sports, Science and Technology.

³ The working period of 50 years for one respondent is too long and exceptional.

⁴ The basics of modern or mainstream economics are Keynesian economics and the neoclassical economics.

⁵ The authors have conducted assessment tests ten times in Japan from 1996 for measuring students' economic and personal financial literacy in mainly high school and university. The Test of Economic Literacy, the third edition (TEL3), Form A conducted in 2001 is one of them.

⁶ See Benesse Educational Research and Development Center. 2006. Dai 4 kai Gakushuu Kihon Chousa Houkokusho, Koukousei Ban. [Report of the Fourth Learning Basic Survey: High School Students]. Figures 2-1-1 and 2-1-2.

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Economics Education Research: Theoretical Foundations and Empirical Research, Directions and Trends in the Past Decades

Keywords:

economic education, economic literacy, review

With the crisis that has taken place from 2007 became clear that knowledge about economic issues is essential to address the increasingly complex day-by-day dynamics. Not surprisingly the theme of economics education enjoyed a clear revival, reflected also in the academic publications. This paper systematizes the existing literature, which is a necessary step in developing the field. For researchers, this review also supports the definition of a future research agenda. For practitioners, it provides an outline of the literature in this area, raising awareness to the diverse aspects of economic literacy.

1 Introduction

Issues related to economics education are under increasing attention by researchers, practitioners and policy makers alike. There are several reasons for that. First, knowledge of economic-related dynamics has become essential to live within an increasingly complex environment. That knowledge is essential to support the day-to-day decisions that a normal citizen must make (Bethune 2000, OECD 2005, Jappelli 2010). Even if this knowledge and competencies imply more than knowledge from economics, economics education can contribute to improve peoples understanding about the economy. Second, from a research and practitioner point of view, there has been an increasing interest on how to improve the quality of economics education at all levels.

From the first steps back in the 1960s, economics education enjoyed a clear revival also a theme for academic research (Lo et al. 2008). 'Economic education (or economics education) focuses on the scholarship of teaching economics. It encompasses the content to be taught, methods of teaching, evaluation of those methods, and information of general interest to teachers of economics in

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elementary through graduate school' (Becker 2001).

In this paper¹ we review the directions this literature has followed in the last decades. Surveying the academic literature on this theme is not an easy task. In what follows we aim to conduct a review of a representative sample of published articles, which may comprise a relevant step toward a rigorous account of the paths taken by economics education research over the last several decades.

We argue that there is a window of opportunity for future research in the field, considering not only the several gaps in existing literature but also because the interest on the matters is likely to increase.

The paper is structured as follows. Section 2 describes the methodology used to identify the published material. Section 3 discusses the results and provides a detailed review of the literature. Section 4 concludes and indicates directions for future research. Systematizing and organizing the existing literature is a necessary step in developing the field and bringing the value of economic literacy and economics education to a wider public.

2 Methodology

This study clearly aimed to conduct an assessment of existing academic research on economics education through which we could identify the main characteristics of the work developed and organize the knowledge created in this field. The review draws mainly on studies identified through an electronic search on the ISI Web of Science platform. The electronic searches drew on two major databases: the Science Citation Index Expanded (SCI) and the Social Sciences Citation Index (SSCI)². These two databases offer extensive coverage of all scientific research fields. The period covered was the widest permitted by the ISI platform, from 1900 to 2010. The research was performed in November 2010 and updated in January 2011. The database was obtained using the terms 'economic(s) education', 'teaching economic(s)', 'economic(s) literacy' and 'education in economic(s)' as search keywords³. Despite the diversity of the terminology in the literature, these

are the most commonly used expressions in research in the field. The search was also restricted to scientific articles, being excluded the materials as book reviews, letters, notes, and meeting abstracts. A qualitative review of each document was performed to eliminate documents unrelated to the subject. The final set contained 389 documents. Besides, we considered complementary relevant material published by the Journal of Social Science Education, the Journal of Economics and Economic Education Research, Journal of Economics and Finance Education and the Journal of Economic Research. We believe that the sample is sufficiently representative to identify the directions taken in published academic research. A qualitative analysis of the articles was performed in an attempt to provide a more conceptual view of the main developments in this research field.

3 Research in economics education

After notable and early contributions (e.g. Thurston 1900; Manter 1927) 'economic education has developed into a major subfield of economics with its own field classification in the Journal of Economic Literature' (Marlin & Durden 1993, p.171).

In Graph 1 we plot the results obtained through our search in the ISI indexed journals, following the procedure described above. Publication within the field developed along three big waves. A first wave on economic education research began in the 1960s and lasted up to mid-1980s. During this period publication on the matter remained relatively stable. Since then and until mid-2000 the number of articles published per year registered considerable growth. Since mid-2000 the number of articles published increased again, until reaching maximum in 2010, marking probably the beginning of a third wave.

The year of 2010 registered one of the highest number of publications (24) in ISI, and over 34 percent of the articles identified were published already in the 21st century (Figure 1). William E. Becker and William B. Walstad are two of the most distinguished authors who have published the highest number of articles, and probably are the most cited.

Considering the scale and scope of the published material, a major issue that needs to be addressed is how to organize the literature along new, precise lines. A few academic publications on this theme have made attempts to respond to this demand (Siegfried & Fels, 1979; Becker, Greene &

Rosen 1990, Marlin & Durden 1993). These reviews and surveys have proposed different ways to think about economic education, but they all agree that systematizing and organizing the existing literature is a necessary step in developing the field. These reviews also clearly point to the need for an updated and more in-depth analysis of the existing literature. This paper aimed to contribute to this purpose.

Economics education is a field within economics that focuses on a variety of themes ranging from the current state of, and efforts to improve the quality of economics education at all levels, the level of economic literacy of various groups, and factors that influence that level of economic literacy. Inspired by the typology suggested by Marlin and Durden (1993) we analysed the main focus, or issues addressed, in the articles (Table 1). The focus range from research issues and questions, courses and programs, methods and materials, outcomes from instruction, to teachers and instructors, and learning and students' characteristics.

A substantial part of published work addresses research issues and questions. Here we include the notable contributions by Johnson (1979), Marlin and Durden (1993) and appreciative papers, such as the one by Dumke (1977), Stigler (1983), Davies (2006), and Lucey and Giannangelo (2006) that highlight how economic and financial literacy contribute to a so-called 'maximalist' citizenship education. The literature supports the idea that economic education should begin as early as possible, preferably in the first years of school (Walstad 1992; Soper & Walstad 1991; Bethune 2000). Nonetheless, few studies address economics education in early grades. Accordingly to Bethune (2000), 'educating elementary students in economics is not the norm; rather it is often ignored for many reasons, including a perceived lack of need for economic education, time constraints in the classroom, and inadequacy of teachers in the field'. The need for economic literacy is also debated, and Stigler (1983) illustrates the difficulty of conveying essential economic understanding. Ma and Weisse (2009) reflect the worries related to the effects of educational policies in economic education.

Very useful, particularly from a research point of view, are the group of articles that discuss techniques useful for research on economic education (e.g. Spector and Mazzeo 1980; Becker 1983a, b). Beckers (1983a and 1983b) articles on research methodology in economic education provide suggestions for the development of theoretical models in

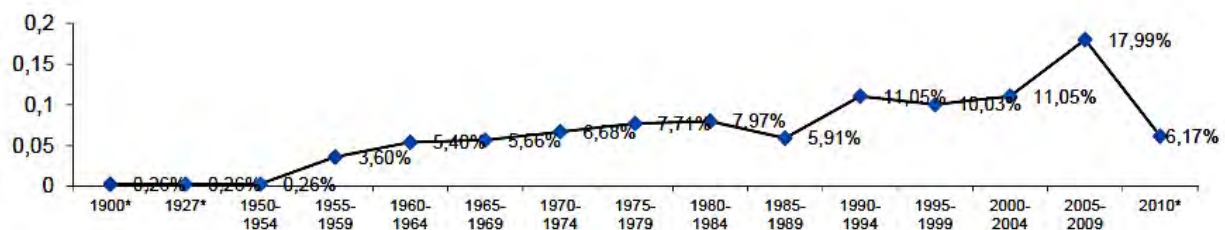


Figure 1 - Percentage of number of articles published (time-series of 5 years) (%) (*one year only)

which issues and questions can be conceptualized and tested, and review statistical and econometric techniques appropriate for model estimation and statistical testing of specific hypotheses for economics education. Regarding the research techniques, by 1980, Spector and Mazzeo concluded that research in economic education was becoming increasingly quantitative. This trend continued in the following decades. Recent applications are well reflected in the paper by Ma and Weiss (2009). Our analysis of the literature published on this matter reveals that the articles are predominantly appreciative and empirical, with formal studies and literature surveys representing only a small fraction of existing material.

A line of research debates the existence (or lack thereof) of ideological messages associated to economic education, as deeply discussed by Rider (1984, 164). Take for example Nelson and Sheffrin's (1991) discussion on the Test of Economic Literacy⁴ (TEL) -their argument is that what is taught and measured is ideology instead of literacy, because 'the TEL is reflective of the consensus of mainstream economists' (1984, 164). These arguments were later refuted by Walstad (1991, 167).

Several studies investigate the level of economic literacy among groups of the population and explore the determinants for their findings (e.g. Gleason & Van Scyoc 1995; Wood & Doyle 2002; Jappelli 2010). The survey instruments vary between studies and indeed, related to this, there is a discussion upon the frameworks to evaluate economic competencies (e.g. Macha 2011). Bethune (2000) discusses how scarce is economic education assessment tools for students below the 5th grade level and develop a testing device for use in the early grades. Kote and Witt (1995), otherwise, focus on the possibilities, as well as on the conceptual difficulties, of an international comparative study to assess economic literacy of students.

A large share of the existing literature addresses the content and structure of economics education in different countries (e.g. Becker 1997, 2000; Hansen 1991; and Walstad, 2001 for US; Bronfenbrenner 1985 for Japan; Weber 2002 for Germany; and Abbot 2003 for England). These studies focus predominantly on studies at University level, and upon the US case. The special issue from the Journal of Social Science Education is a notable contribution on this regard, discussing Civic and Economic Education in Europe. This literature raises important issues about the significant structural problems of delivering economic education (where and how).

A third set of studies have methods and/or materials as their main subject. This literature in general raises issues about the effectiveness of different delivery methods.

Are there alternatives to the traditional lecture-oriented approach, which Becker (1997) calls the 'chalk-and-talk approach'. It becomes apparent from the literature that lecturing is still the method more frequently used but there seems to be an increasing awareness and use of non-traditional methods. On this matters, Williams and Walker (1993) address the use of Internet and computers, Wood et al. (1992), Gremmen and Potters (1997) research upon the use of games or simulations (Zapalska & Brozik 2008) in order to support student authentic experience, while Leet and House (2003) Sexton (2006) and Luccasen and Thomas (2010) discuss the use of television shows and movies. These methods based upon new technologies seem to be effective mediums of interaction that complement classroom instruction, facilitate learning (Agarwal & Day 1998) and enhance economics education (Tsami 2008; Savage 2009). Other researchers emphasize

Table 1 Research themes of economic education research

Main research themes	Exemplificative papers
Research issues and questions	Dumke, 1977; Johnson, 1979; Siegfried and Fels 1979 Spector and Mazzeo, 1980; Stigler, 1983; Becker, 1983a, b; Rider, 1984 Nelson and Sheffrin, 1991; Marlin and Durden 1993; Kote and Witt, 1995 Gleason and Van Scyoc 1995; Wood and Doyle 2002 Lucey and Giannangelo 2006; Davies 2006; Ma and Weiss 2009; Lo et al. 2008; Macha, 2011, Japelli, 2010
Courses and programs	Becker et al., 1975; Bronfenbrenner, 1985. Hansen, 1991; Becker 1997, 2000; Walstad, 2001; Weber, 2002; Abbot 2003 Smith and Edwards, 2007
Methods and/or materials	Wood et al., 1992; Diamond and Medewitz, 1990; Gremmen and Potters, 1997; Becker, 1997 Agarwal and Day, 1998; Leet and Houser, 2003 Jensen and Owen, 2003; Emerson and Taylor, 2004 Dickie, 2006; Sexton, 2006; Tsami, 2008 Zapalska and Brosik, 2008; Savage, 2009 Bergstrom, 2009; Luccasen and Thomas, 2010
Outcomes from instruction, efficacy of courses, and impact upon attitudes	Soper and Brenekke, 1981; Buckles and Freeman, 1984; Baumol and Highsmith, 1988; Highsmith and Baumol, 1991; Grimes, 1994; Diamond and Medewitz, 1990; Kennedy and Siegfried, 1997 Simkins and Allen, 2001; Arias and Walker, 2004 Arai et al., 2005; Christiansen et al., 2008; Venetoklis, 2007; Haucap and Just, 2010; Grimes et al., 2010
Teachers and instructors	Bosshardt and Watts, 1990, 1994; Ashworth and Evans, 2000 Allgood and Walstad, 1999; Walstad and Rebeck, 2001 Ettlinger, 2006; Jocoy, 2006; Walker, 2006
Learning and students characteristics	Siegfried, 1979 Heath, 1989; Walstad and Robson, 1997 Borg and Stranahan, 2002; Shanahan and Meyer (2001) Swope and Schmitt's, 2006; Schaur and Watts, 2010

competence-based learning activities, for example, through classroom discussions and experiments (Jensen & Owen 2003; Emerson & Taylor 2004; Dickie 2006; Bergstrom 2009).

Relatively fewer articles focus on outcomes from instruction. Among these, some deal with the effectiveness of education in economics by evaluating the achievement of students in economics (e.g. Soper & Brenekke 1981; Buckles & Freeman 1984; Diamond & Medewitz 1990; Buckles & Walstad 2008). These studies aim to explore a wide range of system-wide determinants affecting the success in economic education (e.g. Baumol & Highsmith 1988; Grimes 1994; Highsmith & Baumol 1991). Overall their contribution is notable to enhance knowledge regarding overall status of economic education in schools and for recommending needed changes.

A number of studies evaluate the efficiency of specific courses and explore specific determinants for success. For example, Kennedy and Siegfried (1997) and Arias and Walker (2004) explore the effect of class size upon the results in introductory courses. The authors find statistically significant evidence that small class size has a positive impact on student performance. Simkins and Allen (2001) study the results obtained in the course of principles of macroeconomics and explain the differences between Black and White Universities.

Regarding the effects of economic instruction, inspiring and challenging are the studies that discuss the effects upon students' attitudes and values. On this regard there is a notable line of research investigating whether people that studied economics have different values, attitudes and behaviour. Several studies reveal that these differences exist. On this, there has been a debate concerning the hypothesis that economics students are more selfish (less cooperative, trustful, and trustworthy) than other students. For example, Venetoklis (2007) showed that economics education affected the distributive justice preferences of students. In Haucap and Just (2009), students enrolled in economics have shown different attitudes towards various allocation mechanisms for a scarce resource. In Arai et al. (2005) economics students tended to behave rationally in many standard experimental games, but they were not especially less trustful or less cooperative in other situations. Worrying are the findings from Arai et al. (2005) that reveal economics students to be more selfish and to behave more egoistically in game experiments.

While differences have been found, there is not agreement on the sources of the differences. The differences may be attributed either to nature and nurture effects. Accordingly to the first line of argumentation, students that chose to study economics are already different than the others by nature. From another perspective, the differences are attributed to attending economics instruction. On their study Haucap and Just (2009) find the differences in attitudes towards various allocation mechanisms for a scarce resource to be related.

either to nature and nurture. Arai et al. (2005) conclude that education, inculcation, and culture play most important roles in generating trust. They also find the effects of education likely to depend on culture. If, to a certain degree, economics instruction indeed changes attitudes, and indeed leave students less cooperative, one may raise doubts about the social benefits of teaching economics, as well highlighted by Haucap and Just (2009), and about whether economic instructors are entitled to change students' behaviour. For future research it will be interesting to analyze further on this, as also other factors (nature, social, culture,..) likely to affect the effect of economic education upon students' attitudes.

There are also two studies that examine the impact of the level of economic understanding on an individual's financial decisions, for example regarding bank accounts and participation in the stock market (e.g. Grimes et al. 2010; Christiansen et al 2008). A very small fraction of studies measure the effects and results of economic instruction along these lines.

Another group of studies direct attention to instructors and teachers effects in economics education (Bosshardt & Watts 1990, 1994), and they discuss instructor training in economics (Allgood & Walstad 1999; Walstad & Rebeck 2001). There are also articles on teaching styles, individual methods and strategies for teaching economics (Ettlinger 2006; Jocoy 2006; Walker 2006), as well as on the danger of certain practices. On this regard, on their study, Ashworth and Evans (2000) conclude that students may be discouraged from the study of A-level economics by relatively severe grading at the mid-point of A-level study.

Finally, on students characteristics effects upon learning economics or finance, see, for example, Siegfried (1979) and the studies by Walstad and Robson (1997) and Heath (1989), who explored the gender bias in economic education (that men generally perform better than woman). Other characteristics that were considered include personality, preferences and ability (e.g. Borg & Stranahan 2002). Swope and Schmitt (2006) found that students characterized as "judging types" (described as decisive, organized, and self-regimented) generally performed better (economics grades over the entire curriculum) than students characterized as "perceiving types" (described as curious, adaptable, and spontaneous). Shanahan and Meyer (2001) show that on entry to university students show considerable variation in their perceptions of what economics is and what economists do, and such variation affects student learning.

The research themes identified above evolved over time along the three major waves. When considering the big waves, one realizes that methods and materials as well as research upon the outcome from economic education gained momentum as themes for research in the second wave of studies. The research on these matters is likely to increase taken the variety of methods and also the need to obtain evidence on the effectiveness

of education programs in economics.

4 Conclusion

Not surprisingly, research related to economic education increased substantially over time, and significantly further in the recent decade.

Economic education has been an important area of research in economics, and the interest on the matter is likely to increase. The current economic crisis highlights, now more than ever, the immediate necessity of endowing citizens with economic and financial knowledge, which enables them to optimize their financial decisions and to take a more active and responsible role in the society. There is a window of opportunity for future research and publication on this field taking in consideration not only the several gaps in exiting literature but also because the interest on the matters is likely to increase.

The literature supports the idea that economic education should begin as early as possible, but it is essential to provide new evidence on economics education at precollege levels, including empirical evidence on teaching methods, research on children's understanding of economic concepts, and the development and/or improvement of assessment measures and evaluative frameworks to test student understanding.

The literature also raises issues about the need of economics education and of employment of new pedagogic methodologies. The question of whether or not pre-college programs should embed economics is not clearly addressed. What is clear is that it is unlikely that economics can be taught in any substantial way at schools due to resource limitations and lack of teachers training in the matters.

The programs and activities related to economic education can rely on different teaching methods. Along with the general trends in society, recent literature emphasizes the use of Internet and computers, television shows and movies (Leet & Houser 2003; Sexton 2006; Luccasen & Thomas 2010). However, further evidence is needed on the efficiency of these methods to teaching economics.

This paper surveys the themes more commonly addressed in the economic education literature published in the last decades. Regarding the main subject of the articles, a vast majority are dedicated to research issues and questions and research on courses and programs. At empirical level, there is a notable lack of research on the use and effects of economics education on individuals' attitudes, and on wider economic competitiveness. Studies along these lines are needed. All over, governments are broadly supporting the embedding of economics, enterprise, financial and entrepreneurship capacities, across education and through society more generally. In the EU, unlike the US, there is a high dependency of education upon public resources. In the current economic climate it is uncertain if and how this agenda will be (or should be) supported.

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Endnotes:

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² Using these databases implied a risk of not including relevant articles published in journals not covered in the ISI. For example, the *Journal of Social Science Education*, the *Journal of Economics and Economic Education Research*, *Journal of Economics and Finance Education* and the *Journal of Economic Research* are not included in the ISI platform.

³ The search was performed in the topic field, which runs the search in titles, keywords and abstracts.

⁴ The TEL is a standardized multiple choice test for economic achievement at the high school level that was, first developed under the auspices of the Joint Council for Economic Education (JCEE) by Soper (first edition dates from 1978 and was later revised by Walstad and Soper (1988).

Michael Weyland, Marco Rehm

How can Economics Education be Implemented without a Separate Subject? A Case Study from Germany

Keywords:

Economics education, school development, school subject, company internship, classroom experiments, simulations

The discussion about the pros and cons of economics as a separate school subject versus integration of economics in other subjects has been going on for many years in Germany – and agreement has not been reached yet. It is therefore useful to focus on the question of how social science-based economics education can be implemented successfully irrespective of theoretical debates. The public grammar school Siebengebirgsgymnasium in Bad Honnef strives to provide all students with a basic economics education and a selection of additional social science-oriented classes. Using some exemplary projects, the Siebengebirgsgymnasium shows how school development can address the controversy about politics and economics education and to foster a creative and social science-based economics education. The example shows, that a focus on economics education is possible at schools of the general education system even without a subject solely dedicated to economics.

Die Diskussion über die Vor- und Nachteile eines Schulfachs Wirtschaft wird seit vielen Jahren geführt – und eine Einigung ist nicht in Sicht. Es erscheint daher sinnvoll, die Debatte über das Für und Wider eines Schulfachs Wirtschaft vorerst auszublenden und sich der Frage zuzuwenden, wie eine sozialwissenschaftlich fundierte ökonomische Bildung an allgemeinbildenden Schulen konkret ausgestaltet werden kann, damit sie erfolgreich ist. Das Städtische Siebengebirgsgymnasium in Bad Honnef hat es sich zum Ziel gesetzt, allen Schülerinnen und Schülern eine ökonomische Grundbildung zu vermitteln, um sie auf ein eigenverantwortliches Leben in einer zunehmend komplexen Gesellschaft vorzubereiten. Anhand einiger exemplarischer Projekte wird aufgezeigt, wie diese Schule seit 2003 versucht, die Kontroverse um ein Schulfach Wirtschaft kreativ zu wenden und eine sozialwissenschaftlich fundierte ökonomische Bildung zu realisieren. Das Beispiel zeigt, dass sich eine ökonomische Schwerpunktsetzung an allgemeinbildenden Schulen auch ohne ein eigenes Schulfach realisieren lässt

1 Introduction

Most general education schools in Germany do not offer economics as a separate school subject. In contrast to other countries, there are hardly optional subjects to choose from. Instead, general education in Germany means that there is quite a tight core curriculum which all students have to run through. As part of this curriculum multi-perspective subjects like social sciences or politics/economics have been established in the German states. They contain economics but are not exclusively dedicated to economics.

Nevertheless, there has been a debate about whether to establish economics as a separate subject or to stick with the present model of multi-perspective subjects (also dubbed “integration

subjects”). The discussion about the pros and cons of economics as a school subject has been going on for many years - and there is still no agreement in sight. Among the numerous arguments against economics as a school subject are those made by Hedtke (2008) and Hippe (2011), among others. They claim that there persists a methodological rigidity in economics which must not be transferred to a school subject. According to this point of view, a separate subject will lead to vested interests of enterprises affecting the subject and consequently neoliberal indoctrination of students. Furthermore, a separate subject would foster reproducing economic lecture-style teaching on the part of teachers instead of enquiry-based learning. “If one ignores the lyric of preambles and focuses on the core of economic competencies and contents instead, one finds that this ‘economic education’ consists almost entirely of academic economic knowledge” (Hedtke 2008, 458, translation by the authors). In contrast, better economics education had necessarily always to refer to economic reality instead of pure theory, thus had to be integrated into a broader perspective including political sciences and sociology. This would allow for multiple perspectives and to preserve the controversiality of social science topics, according to this point of view.

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On the other hand, Kaminski (2009) and Krol et al. (2011) advocate a separate subject on the grounds that multi-perspective subjects are bad at delivering economic knowledge and have so far not delivered a truly economic perspective at all yet. "In principal, learners grasp the intrinsic logic of economics and their relationship to other social subsystems. If someone does not understand the institutional character of a given economic order, in which he works, consumes, votes and acts as an entrepreneur, he will only deficiently be able to identify and judge about facts of the economic world, the working world and politics" (Kaminski 2009, 532f., translation by the authors).

It is no coincidence that the German scientific community as well as German social science teachers have been debating this topic for years. Notwithstanding the specific debate in Germany, similar problems of how to implement economics in schools persist as examples from France and England show (c.f. Audigier 2002; Abbot 2003; Kerr 2003). In the end it is always about the following question: to which extent can economics education be taught sustainably if not as a separate school subject? The fronts are hardened in these institutional questions – not least because the intermediate position in the school subject debate is a difficult one to defend. Ultimately one can only be for or against the issue of economics as a school subject.

However, there are also commonalities between the two camps. Advocates of economics as a subject as well as most of its opponents agree that economic education in schools is absolutely necessary in order to understand an increasingly globally connected world: „Here the truism applies, that today one needs more specific knowledge, whether as a consumer, employee, investor, or economic citizen, in order to understand the modern (economic) world and to act in it“ (Hedtke 2008, 458, translation by the authors). The proponents of economics as a school subject as well as its opponents largely agree that economics education should significantly differ from a purely academic approach of didactic modeling. „We argue in favor of a problem-oriented concept of economics education. It is not about the curriculum models of subject classifications, but rather the specific increase in insights and competencies among teenagers, which is made possible by dealing with economics related situations in life“ (Krol et al. 2011, 202, translation by the authors). The proponents of economics as a school subject would probably agree with Hedtke when he rejects „pure economic reductionism“, and advocates „a model of a person knowledgeable about social sciences“ as the goal of economics education (Hedtke 2008, 461, translation by the authors).

It therefore seems helpful to set aside the debate about the pros and cons of economics as a school subject in Germany and to address the question of how quality social science-based economics education can be designed successfully within the current framework of general education schools

and particularly within the economics-leaning integration subjects like social sciences or politics/economics. This question is much more concrete and often brings advocates from both sides of the debate closer together.

The Siebengebirgsgymnasium, a public grammar school within the general education system, has been striving to provide all of its students with a basic economics education and a selection of additional voluntary economic courses. Through this program the school tries to prepare students to live responsibly in an increasingly complex and globally connected society. The school receives financial support for these efforts from the Hans Trappen Foundation, the money of which goes exclusively to economic education projects. The foundation's goal is to "boost students' understanding of economic issues in an objective way and to hone their awareness of economic ethics" (see www.trappenstiftung.de). With its school program, the Siebengebirgsgymnasium has defined clear educational objects in economics for each form, which are substantiated by specific projects. These exemplary projects as well as the educational objectives they address are lined out below.

2 Exemplary approaches

2.1 Enabling inductive learning – the case of the island game

At the 7th grade level, the island game is central to the social science lessons. This playful approach helps to demonstrate the necessity of dealing with scarce resources economically. It also illustrates the development of the division of labor and the functions of money in a hands-on way. In addition, teachers try to introduce social science-oriented ways of thinking and working methods. In order to achieve these aims, students will be introduced in the following fictional situation that will accompany them in further lessons: The class won a flight to the Caribbean. Unfortunately, the plane crashed due to technical problems. The students managed to escape to a deserted island without their teacher. On these terms, the students are faced with concrete problems and challenges that need to be mastered in the group. In order to orient the students for the further work, a map of the island is hung up on the classroom wall. In addition a list of the rescued people and all available tools is created by the students. Afterward, the class must reach consensus as independently as possible on their next steps and their approach, including the concrete division of tasks. The teacher observes the game from outside and intervenes only by proposing the election of a discussion leader.

According to experience, the students decide to introduce the division of tasks. The most immediate tasks are to get water, to make a fire, to fish, to collect fruits etc. One decision is always to find an island leader. The pros and cons of any procedure in order to coordinate individuals to groups or of election procedures for positions of responsibility

can thus be discussed and checked thoroughly. The emergence of task division with corresponding fields of responsibilities and responsible persons on the island – and especially the preferred election mode of the students – allows for a first rudimentary comparison with the political system in Germany.

Furthermore, the students very soon have the idea of introducing some kind of money. Using the island game as an example, the functions of money can be easily explored. Concrete proposals for a suitable means of payment on the island typically include shark teeth, rare shells or plastic remains. Experience has shown that the essential features of means of payment can be worked out in detail in this activity. In one class a student even suggested an accounting system (chalk marks for each island inhabitant that are drawn and managed by a representative in a cave on the wall). Accordingly, not only a comparison with the Euro cash, but also a comparison with the banking system can be drawn. Afterwards, the following problem is announced to the students:

- Total number of trees existing on the island: 2,000
- Minimum age at which a tree can be felled: 20 years

The students are to create concepts in small groups with which they can ensure the long-term supply of wood for the inhabitants of the island. As measures to increase the resource will only be effective in 20 years, they have to set up a plan of land use for the existing holding. Furthermore, an emergency plan in case of the occurrence of a storm or forest fire affecting the resource is also necessary.

Thus, many other problems can be worked out effectively in an inductive and enquiry-based manner. It is only necessary to comply with three principles:

- First, the students are given the problem without being told which subject content is being taught (problem-oriented way of learning).
- Second, the students develop their problem-solving skills as independently as possible (action-oriented way of learning).
- And third, the students compare their solutions with structures and processes existing in the real world (reality-oriented way of learning).

The island game provides a useful framework for combining economic and political content and thus allowing for a multi-perspective and controversial education. Concise teaching aids for the topic "island game" have been published by Gregor Pallast (Pallast 2010, 65f.).

2.2 Social science-based design of the company internship

The origins of the occupational orientation of schools in Germany date back to the educational

concepts of the 18th and 19th century (see Kaiser 1974). But only in the early sixties did practice-related experience receive increased attention throughout (West) Germany. Originally, practical training in companies was meant to help students choose their professions (Groth a.o. 1971; Platte 1986).

Thus, Platte's concept of a practical training as "school in a company" was widely used, also because extensive application plans for the trainees were developed in 16 different occupations. However, the concepts of the 70s were based on the circumstances in the former secondary schools ("Realschule" and "Hauptschule") with their approach to qualify their students for an occupation, not for university like grammar schools.

Up to today, there is often a focus on occupational topics during the preparation, experience and the follow-up of the company internship, even though Franz-Josef Kaisers' view (1971) was that the company internship should not serve the purpose of finding a profession, but to give an insight into the social structure of the economic world and working environment. Economic issues of general education are often only discussed superficially in this context. This seems to be questionable, especially with regard to the general education form which is now in highest demand – the "Gymnasium" secondary school – because, generally, high school students have to make their career choices much later.

With regard to teaching material on the market for the topic "company internship", it is clear that the traditional orientation still predominates. But the Siebengebirgsgymnasium has chosen a different path. Here the internship is primarily viewed from the perspective of economics education. The school has included an obligatory internship in its curriculum for many years.

The preparation and follow-up focus on 9th grade classes. The primary goal is to better integrate theoretical book knowledge and practice. During their company internship the students gain concrete insight into „how business really works“, which is meant to correct distorted perceptions of reality. In addition, the students practice empirical methods of social research. The following two aspects are crucial to the company internship at the Siebengebirgsgymnasium:

Analysis of potential and work

The students analyze their strengths, weaknesses and potential and compare them with the changing expectations of qualified workers in selected professions. They observe work processes via video in real time with the aid of observation sheets. The students analyze, implement and reflect upon work processes. They work at the companies they have chosen for the typical working hours for two weeks.

Company field trip

The students take on the role of a researcher. They observe, analyze and reflect business operations from this position. The students

compare their knowledge of economic realities with social studies theories and consider them critically. And they record their results and document them as carefully and precisely as possible in an internship file.

To gain differentiated insights into the real working and business world, systematically organized company visits are carried out, in which students deal with assigned or independently chosen issues through intensive observation and interviews of the employees usually working in small groups. This way the following methods of empirical social science research will be trained in particular:

- hypothesis formulation
- measurement methods (operationalization, selection of indicators)
- development of questionnaires with open and closed questions
- implementation of written questionnaires
- implementation of qualitative and quantitative interviews and observations
- interpretation of correlations, trends, causalities
- limits of social science theories

The collection of compiled data into graphically depicted results is also one of the relevant social science methods. Statistics and graphs are examined in the classroom according to what they reveal about the intentions of the author. Things not mentioned in the interviews can play a role as well as the emphasis on graphs or mathematical weights. Furthermore, a product-oriented and not only receptive use of data also opens up the opportunity to learn and simulate single statistical methods of data analysis. During the internship, the following can be observed: job-related tasks, working tools, manufacturing processes as well as technical, economic and organizational principles. These can be systematically analyzed with the help of the professional methods previously practiced. This includes the process of video analysis, during which students are asked to

- describe a workplace (e.g. typical activities)
- observe this place (e.g. physical, social and mental requirements; external influences; communication behavior) and
- to evaluate it (own judgment; common assessment).

Such detailed observation tasks can enrich the lessons, as they stimulate discussions about the difference between observable behavior and social interpretation of behavior. In this way, moments of selective perception, the projection of the observer, symbols of the interaction (for the negotiation of roles), and the expression of behavior patterns are discussed.

Nevertheless, with respect to possibilities of experience some restrictions have to be made (Schuhen 2009): Due to the role definition of the students as trainees, some employees' experience and specific activities typical for a job and job requirements are not accessible to them. Furthermore,

the emerging contrast between the new working reality and the well-known school reality somewhat complicates the critical assessments on the students' part (see: Krol et al. 2006). The internship provides an opportunity to apply acquired knowledge in concrete situations as stipulated by Hedtke and Hippe. In addition, the practical training also offers the chance to use that knowledge beyond school in a "company learning location" to produce new motivation, to sharpen vague ideas about professions and to guide these ideas down realistic paths. The "trip" to the world of work is not so much seen from the perspective of a direct requirement for the career choices of the students. Rather, "real encounters" are organized to deepen selected economic and social aspects within social science teaching.

Several module elements based on the Bad Honnef model are provided by Jacobs, Schalück and Wolf (2011) as well as Schlösser, Schuhen, Schürkmann and Weyland (2011a, 2011b). They are practically tested and evaluated for the preparation, execution and follow-up of the company internships in all types of schools.

2.3 Simulation und testing hypotheses – the case of classroom experiments

In 1948 Chamberlin constructed the first market experiment for his students. With very little effort he was able to simulate the emergence of the market price. Inspired by this idea, one of his students, Vernon Smith, developed further market experiments for which he was awarded the Nobel Prize in 2002. Smith realized that studying even a relatively small number of market players with very limited information produced similarly informative results to those of broad statistical surveys.

One of the most well-known classroom experiments is the so-called ultimatum game. In this game a class is split into two halves: the „owners“ and the „have nots“. The owners possess 10 Euros each and have to decide how much they will give to their partner from the „have nots“ group. The partner then agrees or disagrees to the distribution. „Yes“ means that both get a proportional amount of the money which the owner has previously determined. „No“ means that both get nothing. When the students negotiate successfully, both groups benefit. The question is: With which distribution of wealth does the game end?

Classical economic theory makes a clear prognosis, which is based on the „homo oeconomicus“ model: it predicts that the owners will give away one Euro, since that is what „homo oeconomicus“ would do. If the partner from the „have nots group“ accepts one Euro, then he gets one Euro. If he rejects it, he receives nothing. Since one Euro is better than nothing, he accepts it. And because the owners also act according to „homo oeconomicus“, they anticipate this behavior. However, in practice, the results show something completely different: When the ultimatum game is played in class (either with real money or gummi bears), almost no one of the

owners offers only one Euro. When the owners offer less than half the money the distribution is typically rejected by the have nots. Game theorists come to similar findings in their research: People have an „aversion to unfairness“. They want to punish a person for being unfair.

What do students learn in the context of this experiment? Unlike in a passive, text-reproducing assignment, the students test scientific statements in an active and empirical way. Subsequently the results of the experiment are compared to the predictions of classical economic theory. The students then establish the similarities and differences. This experimental approach is thus a scientific propaedeutical form of discovery-based learning.

According to many economic education experts, classroom experiments are also appropriate for provoking controversial questions about business ethics. Here is an example: The fishing game, also known as the „tragedy of the commons“ (Hardin 1968). The students take on the role of fishermen who decide themselves on the amount they catch and thus systematically destroy their fishing grounds by privatizing profits and shifting the cost on the public. What alternatives exist? In order to answer this question, the fishermen first have to recognize the core of the problem and then discuss realistic solutions. The students deal with the typical characteristics of a „common resource“: no property rights, non-exclusivity and rivalry in utilization of resources. Then they consider the consequences of possible solutions (smaller nets, smaller boats, shortening the fishing season, introduction of a fishing limit). The take home message of the game is that under certain conditions, rational decisions can lead to disaster. Finally the students attempt to transfer the common goods-dilemma to real political problems. Overall, this approach facilitates working with ideas that would otherwise be difficult for students due to their complexity (see: Ziefle 2000).

Classroom experiments display a high level of flexibility with respect to their structure and results. The students are provided with a wide range of possibilities of action, within which they can try out different strategic options. When strategies prove successful, they can broaden students' repertoire of skills and also increase the confidence with which they act in real situations. They also develop their ability to act through practical exercises. With respect to economic education processes, classroom experiments represent a domain-specific form of simulation. Conflicts of interest are purposefully built into the game so that the students have to systematically make and give reasons for their decisions in order to overcome the opposing interests and dilemmas. For example, in the Cournot-oligopoly game players represent companies, and their courses of action are based on the variation of supply. In the Bertrand game, players can set and change supply prices. In the experiment regarding the prisoner's dilemma, players take on the roles of two prisoners and they have to choose between testifying or remaining silent (see: Schuhen 2005).

Classroom experiments are particularly suitable

for senior high school courses, since hypothesis tests which are based on Popper's method can be considered the central characteristic of the academic work (academic orientation). With the help of classroom experiments, cooperation problems and conflicts of interest are simulated, students are prepared for strategic decision-making situations and they actively and playfully test advanced elements of economic theory in educational ways. In addition, they lead to results which cannot be predicted beforehand and thus enable students to discover the world of economics in an enquiry-based and problem-oriented way. This is an important prerequisite for teaching economic concepts and keeping students interested. The success of this method in educating economics students is evident in the studies which have been carried out (Becker & Watts 1998; Gremmen & Potters 1997) as well as the various textbooks from the last 15 years which provide experiments as supplemental material. Schlösser et al. (2009) provide several classroom experiments which have been specifically developed and tested on topics such as supply and demand, market forms (polypoly, monopoly, oligopoly) and auctions. Schuhen and Weyland (2011) offer a tested and evaluated compilation of module elements for classroom experiments.

2.4 Further projects in brief

More than half of all students opt for a supplementary course in business and computer science. New course contents, innovative learning methods and alternative methods to assess learning are developed and tested here. Interdisciplinary learning and working with modern media are foundational aspects of these courses. For example, the 8th grade courses take part in the competition youth tests of Stiftung Warentest, a publicly funded product testing foundation. The students have to develop a product test in small groups with professional supervision and test the chosen products themselves. All groups have to put together a file and present their findings.

In the final two school years, economics is taught as a discipline in which students can major within social studies. The students are enabled and encouraged to work with business partners outside of school thus fostering the integration of theoretical knowledge with concrete experiences in the real world. Teaching focuses on current economic and sociopolitical questions, which are then analyzed and debated controversially in class. On the one hand, these teaching measures help students prepare for the tests in the central high school exam. On the other hand, the quality of lessons is improved through detailed examples, case studies, simulations, and field experts.

Since 2003, the Siebengebirgsgymnasium has participated in the business@school competition every year. In this competition, teams of students from the 10th and 11th grades analyze listed and local companies. Subsequently, the students develop their own business ideas, complete with a business plan. They are coached by consultants from the

Boston Consulting Group in this process. The students acquire a wide spectrum of detailed knowledge, but also social and methodological skills. Furthermore, they learn to present and assert themselves with their newly gained knowledge in front of various audiences and in different environments (city hall, Post Service Tower). In 2009, 2011 and 2012, students from the Siebengebirgsgymnasium won the school and regional competition with their business ideas and successfully participated in the European final competition in Munich.

3 Conclusion

All of the projects presented in this article have two things in common: On the one hand, the attempt to strengthen economics education within the narrow framework of a school of the general education system in Germany. On the other hand, a social science-based understanding of economics education, according to which all real economic processes and structures are incorporated into a social, legal and political infrastructure and thus cannot be dealt with one-dimensionally.

For this reason, along with in-depth, domain-specific and methodical competencies, specific communication, decision-making skills and ability to act are also becoming essential for students. As was demonstrated in the example of the company internship, real and actual economic life situations should be experienced, explained and assessed from different perspectives. Corresponding to the problem-oriented structure of the lesson concepts is the necessity to explore issues as in-depth as possible in order to create knowledge-based prerequisites for making judgments and analyzing theories. The development of pragmatic-instrumental abilities and practicing quantitative methods is related to the determination of economic issues – not only in class, but also in oral or written assessments. Game-based and enquiry-based forms of learning motivate and mobilize political-economic potential for thought and action among students (see: Scholz 2009). In combining action and reflection, they offer a specific contribution to the knowledge about economic structures and processes, such as are shown in the examples of the island game and ultimatum game. Students also learn to look for alternative solutions and defend their positions in well thought out ways, such as is demonstrated in the fishing game example.

When economics education aims to enable students „to accomplish tasks and shape current and future life situations“ (IÖB 2012, translation by the authors), from both a didactic and practical teaching perspective it seems essential to strengthen domain-specific subject methods. In addition, the amount of simulating, problem- and reality-oriented learning arrangements must be significantly increased. Under these conditions the goal of connecting politics and economics can be attained and the ideal of the person knowledgeable about social sciences can become a realistic

standard for the classroom.

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