The Journal of SOCIO-ECONOMICS

Confidence in the economy in times of crisis: Social representations of experts and laypeople

Katharina Gangl*, Barbara Kastlunger, Erich Kirchler*, Martin Voracek

Department of Applied Psychology: Work, Education and Economy, Faculty of Psychology, University of Vienna, Universitaetsstrasse 7 (NIG), A-1010 Vienna, Austria

ABSTRACT

This study investigates experts' and laypeople's social representations of the financial and economic crisis, as widely discussed in the media after the fall of Lehman Brothers in 2008. Financial experts ($n = 156$) and laypeople ($n = 153$) with low versus high confidence in the economic recovery spontaneously associated thoughts and beliefs about the crisis and to economic and political stakeholders. Following a mixed-methods approach, they evaluated economic stakeholders with regard to six trust items. The study was conducted in March 2010 in Austria, which was moderately affected by the crisis. The results indicate that economic variables (e.g., unemployment) were central to the social representations of the crisis, while underlying feelings of unfairness and egoism surfaced during the ongoing process of association. The social representation did not comprise a general criticism of the economic system. The differences between the subgroups depended on identification-based self-protection and economic knowledge. Experts and laypeople tended to attribute the economic crisis to specific stakeholders in a self-protecting way: experts blamed the media, laypeople blamed the managers, and both blamed the politicians. Interestingly, the subgroups tended to evaluate the banks as being relatively neutral. Expertise and differentiated economic knowledge was related to confidence in the economic recovery. Thus, the perceived capability of politicians in terms of competence and morality seems crucial for regaining public confidence in the economy.

© 2012 Elsevier Inc. All rights reserved.

1. Introduction

The financial crisis – widely discussed in the media since the fall of Lehman Brothers in 2008 – caused a fundamental shock in the economy worldwide, alarming economists, politicians, and citizens in general (Arup, 2010). Although the financial crisis of 2008 was only the most recent large-scale economic shock in a series of several cases of financial and economic crises (e.g., the Great Depression of 1929, the crises caused by oil shocks in 1973 and 1979, the European Monetary System crisis in 1993, the Mexican economic crisis in 1994, the Asian economic crisis in 1997, the Russian economic crisis in 1998, and the Argentine economic crisis in 2002), to most individuals it was unexpected and it became the source of intense public discussions. The public discourse about the causes of and measures to combat the crisis included discussion of the roles of economists, politicians, business managers, and consumers. Neither financial experts nor consumers had a clear understanding of

the causes of the crisis, the capabilities of economic and political stakeholders to take efficient measures, or what the future developments might be (de Rosa and Bulgarella, 2009). However, there was broad consensus that the crisis weakened confidence and eroded trust in market economies in general, and in economic as well as political stakeholders in particular (Earle, 2009).

Unlike crises in the past, the financial and economic crisis of 2008 fostered research not only into the economic aspects of the crisis, but also into social and psychological aspects, which include how the public tied to make sense of the crisis and the circumstances surrounding it. Insights into how the psychological processes of sense making of the crisis have been seen as being necessary to understand why the financial and economic crisis emerged and how it can be conquered (Akerlof and Shiller, 2009). Initial empirical evidence about public sense making of the phenomenon has indicated that laypeople either explain the crisis as a natural development of economic cycles or favor attributing the crisis to stakeholders' myopic strategies and moral corruption (Leiser et al., 2010). Laypeople also seem to focus on unemployment when they think about the crisis and differ in their notions of the crisis depending on whether they are afraid or unafraid of its consequences (Roland-Lévy et al., 2010). On the other hand, the media seems to represent the economy as an accused or sick person, and

* Corresponding authors. Tel.: +43 1 4277 47331; fax: +43 1 4277 47339.
E-mail addresses: k.gangl@univie.ac.at (K. Gangl),
barbara.kastlunger@univie.ac.at (B. Kastlunger), erich.kirchler@univie.ac.at
(E. Kirchler), martin.voracek@univie.ac.at (M. Voracek).

represents the crisis as consequence of "bad finance", erroneous financial mathematics, the virtualization of the economy, exaggerated deregulation activities, or unscrupulous ethics (de Rosa and Bulgarella, 2009). Studies of public sense making of the crisis allow initial conclusions about how individuals perceive and understand the crisis. However, various relevant questions still need clarification. Firstly, it can be assumed that different subgroups in the population have their own notions of the crisis. Secondly, although confidence and trust are crucial in the crisis, empirical studies have rarely addressed this aspect up to now. Finally, the results from former studies indicate that there might not only be issues about public sense making of the crisis in general, but also about the role of different stakeholders in the crisis (e.g., managers, politicians).

The general purpose of the present study is to expand insights into the psychological processes of sense making of the crisis by considering the theory of social representations (Moscovici, 1961/1976) as an analytical framework and a mixed-methods approach for data gathering. Based on the theory of social representations and a mixed-methods approach, the present study has three specific aims. The first is to compare the social representations of four relevant participant subgroups: experts versus laypeople and participants with low versus high confidence in the economic recovery. The second aim is to investigate not only the social representations of the financial and economic crisis in general, but also the social representations of relevant stakeholders: financial institutions/banks, managers/entrepreneurs, politicians/government, and consumers/customers. Finally, it aims to analyze trust in the relevant stakeholders by experts and laypeople with low versus high confidence in the economic recovery. The study was conducted in Austria, which was affected by the crisis on a moderate level.

In what follows, we first present the theory of social representations as a tool for researching public sense making. Secondly, we outline the importance of analyzing the social representations of experts and laypeople with low or high confidence separately in order to gain an accurate understanding of the process of sense making of the financial and economic crisis. Thirdly, we present the research framework of this study.

1.1. Social representations theory as a means of exploring representations of the crisis

Unknown and unexpected social phenomena often fuel discussions among citizens about the unknown and stimulate a search for information needed in order to understand the new phenomenon, communicate successfully about it and to develop strategies to cope with it. Media reports, discussions, and debates in society serve the purpose of familiarizing the public with the unknown and of developing shared representations of phenomena (Rouquette, 1996; Wagner et al., 1999).

In general, social representations are defined as shared notions, knowledge, ideas, thoughts, and myths about a relevant phenomenon in a social environment. Social representations represent a form of conventional knowledge (Moscovici, 1961/1976, 2001a). As organizing principles of the individual and joint knowledge, they allow individuals to orient themselves within their social environments (Doise et al., 1993, 1999). The development of social representations includes two processes: anchoring and objectification (Doise et al., 1993; Wagner et al., 1999). Anchoring marks the process of linking knowledge about new phenomena to already existing knowledge. The embedding of new phenomena with particular properties and qualities into existing knowledge leads to the familiarization of the formerly unfamiliar phenomenon. Through the process of objectification, an abstract phenomenon is translated into concrete and comprehensible entities (Doise et al., 1993; Wagner et al., 1999). Eventually, a common reality in the form of

familiar names, verbs, or metaphors emerges, which is mutually understandable and apt for describing and communicating about social phenomena (Doise et al., 1993; Wagner et al., 1999). Thus, a formerly unfamiliar phenomenon, with its attributed features and meanings, becomes part of the social world of a social group and coordinates its actions (Wagner et al., 1999). Social representations might become constitutional if they bear the foundational myth of a social group, define rights and obligations, endow others with status and position, and legitimize social and political arrangements (Liu and Hilton, 2005). They are strongly linked to the social identities of individuals (Lo Monaco and Guimelli, 2011; Turner, 1987). Based on individuals' social self-categorizations, individuals will form social representations that protect their own identities, define their relations with other individuals, and eventually determine their behavior (Akerlof and Kranton, 2000; Howarth, 2002; Joffe, 2003; Liu and Hilton, 2005).

Social representations are conceptualized with core and peripheral elements (Abric, 1993). Core elements are constituted by names, verbs, or metaphors that are often and immediately associated with a social object. They tend to be stable and resistant to change. By contrast, peripheral elements are constituted by names, verbs, or metaphors that are more loosely associated with a particular social object; they are less stable and less resistant to change (Abric, 1993).

Free association tasks are a popular method of investigating social representations (Nelson et al., 2000; Vergès, 1992). Associations that emerge when people are presented with a social object such as the financial and economic crisis summarize information about individuals' thoughts and beliefs about the social object at stake. In a free association task, participants are asked to produce spontaneous associations to a stimulus, which are then evaluated either as positive, neutral, or negative. The analysis of associations allows detection of the content of social representations as well as the identification of core and peripheral elements (Vergès, 1992). Evaluations of associations also allow us to assess positive and negative attitudes toward a respective social object (de Rosa, 1995). Moreover, the sequence of associations of a social object can be analyzed in order to gain insight into the cognitive processes occurring when confronted with a stimulus (Voracek et al., 2001). Social representations include not only "cold" cognitive knowledge structures, but also "hot" emotional evaluations (Joffe, 2003). Analyses of the sequence of associations allow for detection of situations when cognitive and emotional aspects arise. Kirchler and de Rosa (1996) and Ravenna et al. (1998) show in their studies of the social representations of Benetton advertisements and animals respectively that individuals are likely to start their association processes with emotionally loaded words, continue by mentioning cognitive aspects, and end by referring to behavioral aspects. In the case of shocking stimuli (e.g., particularly the Benetton ads), associations remain highly emotion-charged during the association process, indicating that no "cooling off" takes place during this period. The production processes of associations are highly interesting, although it is not entirely clear what information they convey. Primary affective reactions may serve as a cue for the later cognitive evaluation of a stimulus (Slovic et al., 2002; Zajonc, 1980), and emotionally loaded associations that are found at the end of associative processes may serve as affective evaluations of the earlier produced associations (Pfister and Böhm, 2008).

1.2. Experts and laypeople with low versus high confidence in the economic recovery

When Moscovici (1961/1976) investigated laypeople's social representations of Sigmund Freud's theory of psychoanalysis, substantial differences between the original theory and public representations were found. Experts are expected to have

different representations of a particular phenomenon compared with laypeople (e.g., Leiser and Aroch, 2009; Leiser and Drori, 2005). Experts discussing social issues on the bases of their theoretical knowledge and experiences may develop a more elaborate understanding of a phenomenon compared to laypeople (Moscovici, 2001b). Lay thinking often seems to be invalid and irrational, reflecting general norms and values (Ernst-Vintila et al., 2011). For instance, Haferkamp et al. (2009) found that experts mainly base their acceptance of economic and political reform measures on efficiency judgments, which are important criteria in economic theory, whereas laypeople primarily focus on perceived social fairness. Economic experts, in particular financial consultants and employees in banks that handle customers' savings and investments, and who hold elaborate and abstract theoretical knowledge, may link the financial and economic crisis to empirically proven theories whereas laypeople get their notion of the crisis mainly from the media (Lo Monaco and Guimelli, 2011). To sum up, experts usually hold a more structured, complex, differentiated, and internally consistent understanding of a particular issue, whereas laypeople with superficial knowledge lack abstract theories and they are likely to refer to concrete aspects, such as specific names of individuals or places related to a particular phenomenon, or metaphors (Ernst-Vintila et al., 2011; Moscovici, 2001b).

Besides expertise, we assume that confidence in the recovery of the economy is also related to social representations of the crisis. The social representations of experts and laypeople may differ in terms of sentiments concerning economic developments (Roland-Lévy et al., 2010). Confidence in the economy can be conceptualized as a form of "trust in the system" (Luhmann, 2000; Nooteboom, 2002) or a conviction that the economy will be able to regulate itself through the actions of relevant stakeholders. We can assume that depending on confidence, experts and laypeople will result in different representations of the crisis and stakeholders.

1.3. Research framework

The research was carried out in early 2010 in Austria, when the crisis was still of paramount interest in the media. A two-part study was conducted, including a qualitative and quantitative approach. In the first part, experts and laypeople with low versus high confidence in the economic recovery freely associated around five stimuli (financial/economic crisis, financial institutions/banks, managers/entrepreneurs, politicians/government, and consumers/customers). In the second part, trust in economic stakeholders (financial institutions/banks, managers/entrepreneurs, politicians/government, and consumers/customers) was assessed by measuring their trustworthiness, competence, fairness, honesty, transparency, and value congruence. Trust in a stakeholder requires a positive assessment of these trust related qualities (Castelfranchi and Falcone, 2010; Gärling et al., 2010; Pirson and Malhotra, 2008). Based on the literature and the few former studies of peoples' sense making of the crisis, our research is mainly explorative. However, our mixed-methods approach allows us to formulate some general hypotheses:

(a) Experts and laypeople with low versus high confidence in the economic recovery have different social representations of the financial and economic crisis.

Experts with low versus high confidence in the economic recovery were expected to have similar social representations. Experts in general were assumed to hold abstract, theory-based concepts, which should be less influenced by personal sentiments such as confidence in the economic recovery or by media reports (e.g., Lo Monaco and Guimelli, 2011). In contrast, we assumed that laypeople, in particular those with low confidence in the economic recovery, hold superficial social representations of the crisis related to media reports. We assumed that laypeople's associations would refer to negative personal and collective economic consequences, such as the fear of rising unemployment as reported by Roland-Lévy et al. (2010), failures in the (free) market economy (Kotz, 2009), and the profit maximization strategies of financial stakeholders that lacked ethical standards (Ernst-Vintila et al., 2011; Leiser et al., 2010).

(b) Experts and laypeople with low versus high confidence in the economic recovery have different social representations of the economic stakeholders (financial institutions/banks, managers/entrepreneurs, politicians/government, and consumers/customers).

Once again, we assumed that experts would have abstract social representations less influenced by media reports, which would lead experts to have less negative evaluations of economic and political stakeholders than laypeople. However, because of identification processes we expected financial experts to evaluate banks and managers more positively than laypeople (Jones and George, 1998; Kramer and Wei, 1999; Tanis and Postmes, 2005). In contrast, laypeople, especially those with low confidence in the economic recovery, would have basic and concrete social representations of economic stakeholders related to media reports. As the media reported intensely on the role of banks in the course of the crisis, we expected that financial institutions/banks would be evaluated negatively and blamed for causing the crisis. In addition, we expected that managers/entrepreneurs and politicians/government would be blamed for not having efficiently regulated financial transactions or for lacking efficient strategies to combat the crisis and for lacking ethical standards (Leiser et al., 2010). Concerning laypeople's social representation of consumers/customers, we hypothesized that laypeople would identify with consumers, leading to positive evaluations of this stakeholder.

(c) Experts and laypeople with low versus high confidence in the economic recovery differ in their trust in the economic stakeholders (financial institutions/banks, managers/entrepreneurs, politicians/government, and consumers/customers).

Trust in economic and political stakeholders was expected to be low, particularly when confidence in the economic recovery was low. Since trust in economic stakeholders originates from perceiving them as being competent (i.e., being able to regulate the economy efficiently to benefit people; Anderson, 1995; Gärling et al., 2010), low trust was expected to co-vary with low confidence in the recovery. Financial experts were assumed to trust more than laypeople, because experts should have more insights into the role each economic stakeholder plays in the crisis and thus have the perception of transparency, which fuels trust (Castelfranchi and Falcone, 2010; King-Casas et al., 2005). In contrast, laypeople, in particular those with low confidence in the economic recovery, were expected to have less knowledge about the role of each economic stakeholder and thus lower trust in the economic stakeholders than experts.

2. Method

2.1. Sample

Overall, 156 employees of Austrian financial institutions and 153 Austrian laypeople participated in an online survey. The employees of the financial institutions were first approached and, according to their demographic characteristics, a parallel sample of citizens not employed in financial institutions (i.e., laypeople) was selected. The employees of the financial institutions were

considered experts in the field of investment and well informed about financial and economic issues. When asked about their personal knowledge of economics on a four-point scale ranging from 1 = *very good knowledge* to 4 = *very poor knowledge*, experts indicated having good knowledge ($M = 1.81$, $SD = 0.56$), whereas laypeople indicated modest knowledge ($M = 2.23$, $SD = 0.63$; $t(307) = -6.20$, $p < .001$, $d = 0.70$).

Samples were successfully matched: experts ($M = 40.90$, $SD = 10.21$) and laypeople ($M = 41.07$, $SD = 9.97$) had similar ages ($t(307) = -0.14$, $p = 0.89$), similar sex distributions (53.2% male experts, 46.8% female experts, 56.9% male laypeople, 43.1% female laypeople; $\chi^2(1, N = 309) = 0.42$, $p = 0.52$), similar educational backgrounds (0.3% basic education, 26.9% vocational training, 53.7% high school, 19.1% university; $\chi^2(1, N = 309) = 1.35$, $p = 0.72$), and similar employment situations (0.3% self-employed, 14.2% managerial, 52.4% middle management, 30.7% white-collar employee, 0.6% vocational training; 1% parental leave, 0.3% unemployed; $\chi^2(1, N = 309) = 8.82$, $p = 0.27$). Furthermore, the amount of individuals living in the household was distributed equally in both samples (17.2% one individual, 33% two individuals, 25.6% three individuals, 18.8% four individuals, 5.5% five or more individuals; $\chi^2(1, N = 309) = 10.04$, $p = 0.12$). Therefore, experts and laypeople in this sample only differed with regard to their knowledge about financial and economic issues, but not in other aspects.

2.2. Materials

Participants completed an online questionnaire comprised of four sections. In the first section, participants were introduced to the study, presented with the stimulus about the financial/economic crisis, and asked to take note of their spontaneous associations. After having written down their associations, participants were asked to evaluate each association as being positive, neutral, or negative. On the completion of this task, four additional stimuli were presented in a randomized order: financial institutions/banks, managers/entrepreneurs, politicians/government, and consumers/customers. Participants were asked to proceed in the same manner as with the first stimulus. The second section served to assess trust in economic stakeholders. Participants were asked to evaluate financial institutions/banks, managers/entrepreneurs, politicians/government, and consumers/customers (presented in a random order) by rating their trustworthiness, competence, fairness, honesty, transparency, and value congruence. They answered on a scale ranging from 1 = *totally agree* to 7 = *totally disagree*. Four explanatory factor analyses (principal components analyses) were computed on these six items, separately for each stakeholder. Each analysis yielded a single factor, which explained 58% to 68% of the variance as well as factor loadings greater than 0.50 for each item. Internal consistency (Cronbach alpha) varied between 0.81 and 0.91. Consequently, an index of trust was calculated by averaging ratings on the six items.

In the third section, confidence in the economic recovery was assessed by the following items: "I think that the economy will recover soon from the financial crisis"; "I'm confident in a strong economy in future years"; "I believe that the economy will recover by itself"; and "Regarding the economic crisis, I'm looking with optimism toward the future". Answer scales ranged from 1 = *totally agree* to 7 = *totally disagree*; while the Cronbach alpha of the four items reached $\alpha = .81$. Answers were combined into a single confidence index, which was used to split the sample on the median into subsamples of participants with low versus high confidence in the economic recovery. The term "confidence in the economic recovery" will henceforth be referred to as "confidence" for the sake of brevity. Average confidence was $Mdn = 4.00$ ($M = 3.96$, $SD = 1.24$). A total of 159 participants (51.5%) held low confidence and 150 participants (48.5%) held high confidence. A total of 76 experts held

low confidence and 80 held high confidence; 83 laypeople held low confidence and 70 held high confidence. In the last section, socio-demographic characteristics were collected.

2.3. Procedure

An Austrian market research institute was employed to collect data in March 2010. The request to fill out an online questionnaire was sent out via to the employees of financial institutions in Austria. Immediately after collecting data from the experts, laypeople were approached, using address lists of the market institute and selecting participants in accordance with the experts' gender and age distribution. During the period of data collection, the news in the national media was dominated by the financial and economic crisis. For example, at the beginning of February 2010, the unemployment rate in Austria had risen to its highest since World War II. This rise was attributed to the crisis (Oswald, 2010). The Greek government's budget was controlled by European Union dictates (Mayer, 2010), and the financial sector was blamed for dramatically challenging the real economy (Brändle, 2010).

3. Results

The social representations of the financial/economic crisis and then those of the political and economic stakeholders were investigated in detail. Finally, levels of trust in economic and political stakeholders were assessed.

3.1. Social representations of the financial/economic crisis

3.1.1. Semantic content of the social representations of the financial/economic crisis

The social representations of the financial/economic crisis were investigated by calculating the frequency (i.e., the frequency of an association being mentioned with regard to a stimulus) and mean rank of associations in the association process (i.e., whether the association was mentioned first, second, third, or at a later stage of the associative process) in order to capture the core elements of the representation. Associations were then categorized and the frequencies of categories of associations by experts and laypeople with low versus high confidence were analyzed using correspondence analysis.[1] A second correspondence analysis considered the ranked order of associations for both experts and laypeople and assessed their levels of confidence.

The stimulus "financial/economic crisis" evoked 1743 associations, of which 688 were different. The three most frequently mentioned terms in regard to the financial/economic crisis were, as depicted in Table 1, unemployment, banks, and the USA. These associations can be interpreted as the core of the social representation of the financial/economic crisis.

All associations were categorized into a category system that was developed inductively by the authors in cooperation with five psychologists. Subsequently, two independent raters were presented with the category system and individuals were asked to categorize the single associations deductively. The associations were categorized into 29 categories; inter-rater agreement reached $\kappa = .75$.[2] The categories and frequencies of the associations for each

---

[1] Correspondence analysis attempts to detect the structure of a data set (i.e., a frequency table) by identifying dimensions that comprise a maximum of information. The resulting dimensions allow us to draw a map that represents the specific structure and relations between categories. In principle, correspondence analysis functions like a principal components analysis for categorical data (Greenacre, 2007).

[2] According to Landis and Koch (1977), κ values between 0.70 and 0.90 indicate substantial agreement among raters.

Table 1
Core elements of the social representations.

|	Number of evoked associations	Number of different associations	Three most frequent associations	Frequency of association	Mean rank of association
Financial/economic crisis	1743	688	Unemployment	107	2.87
			Bank	65	2.17
			USA	43	3.38
Stakeholders					
Financial institutions/banks	1434	747	Interest	39	3.33
			Credit	38	2.87
			Account book	26	3.50
Managers/entrepreneurs	1434	747	Responsibility	63	2.35
			High salaries	55	1.96
			Salaries too high	46	2.20
Politicians/government	1534	798	Election	35	2.97
			Incompetence	27	3.15
			Dishonesty	25	3.44
Consumers/customers	1306	711	Consumer protection	43	2.67
			Rising prices	36	2.78
			Buying	27	2.22

Note: The number of evoked associations refers to the total number of associations mentioned to stimuli. The number of different associations refers to the number of different associations mentioned to stimuli. The three most frequent associations refer to those three associations mentioned most frequently. Frequency of association refers to the frequency of an association being mentioned with regard to a stimulus. Mean rank of association refers to the mean rank of an association in the sequence of the associative process to a stimulus (i.e., whether the association was mentioned first, second, third, or at a later stage of the associative process).

subsample are displayed in Table 2. The most frequent associations with the crisis were the categories financial markets (e.g., speculation, loss in the stock market, real estate), work problems (e.g., unemployment, rising unemployment, short-time work), and debts (e.g., bankruptcy, loss, debts).

The frequency of association categories being developed by experts and laypeople with low versus high confidence was examined through correspondence analysis, using the Statistical Package CA in program R (Nenadic and Greenacre, 2007). The analysis yielded two dimensions, which explained 61.90% and 23.40% of the inertia,[3] respectively. Fig. 1 shows the two-dimensional solution. When presented with the stimulus financial/economic crisis, experts with low confidence expressed the possibility of a decrease in the value of money (e.g., inflation, rising prices, less money) and associated terms related to international issues and global developments (e.g., USA, Greece, globalization). Experts with high confidence used associated terms related to the loss of trust (e.g., loss of trust, distrust, image loss of banks). They perceived the crisis as a chance for a change for the better, but also as a threat (e.g., threat, fear, insecurity) and related these categories to media and communication (e.g., media panic, bad publicity, information scarcity). The differences between laypeople with low versus high confidence were more pronounced: laypeople with low confidence associated the crisis with managers (e.g., managers, financial managers, managers in banks), unfairness (e.g., unfairness, exploitation, "poor pay"), and politics (politics, politicians, ministers). Laypeople with high confidence associated specific economic actors (e.g., AWD, Lehman Brothers, Bernie Madoff) with synonyms of the crisis (e.g., crisis of banks, real estate crisis, stock market crash). Laypeople generally associated banks (banks, bank scandal, bank crisis) and fraud (fraud, corruption, criminals). Laypeople addressed more terms referring to economic actors when thinking about the crisis than the experts did. Experts and laypeople with high confidence frequently expressed hope of there being no serious long-term effects.

The second correspondence analysis included the sequence of association categories (i.e., the frequencies of associations mentioned first, second, third, or at a later stage of the associative

process) produced by experts and laypeople with low versus high confidence. The corresponding frequencies are displayed in Table 2. The aim was to analyze changes in the content of the associations during the associative process. The correspondence analysis yielded two dimensions, which explained 24.50% and 21.30% of the inertia. The third dimension contributed 10.80%, but did not contribute to a better understanding of the semantic space. Fig. 2 shows that the people in the four subsamples started the associative process with heterogeneous thoughts related to banks, work problems, media and communication, as well as the loss of trust, and moved to more homogeneous associations during the process.
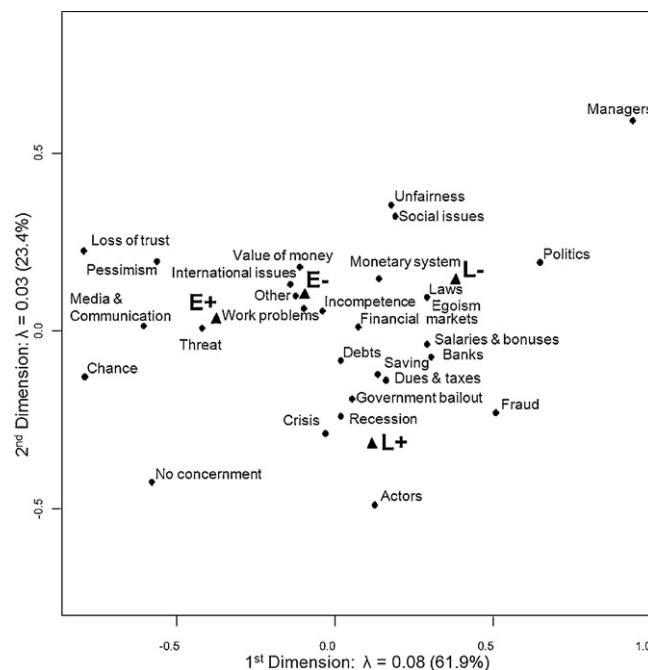
Note: E–= Experts low confidence (*n* = 76), E+ = Experts high confidence (*n* = 80), L–= Laypeople low confidence (*n* = 83) and L+ = Laypeople high confidence (*n* = 70).
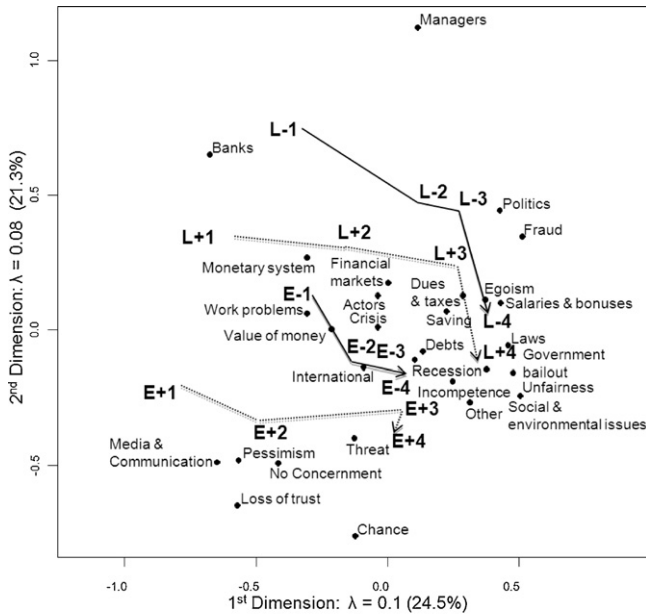
Fig. 1. Results of the correspondence analysis of associations with the *financial/economic crisis* by experts and laypeople with low versus high confidence in the economy.

---

[3] Inertia is similar to the concept of explained variance.

Table 2
Frequencies of categorized associations to the stimulus *financial/economic crisis* by experts and laypeople with low versus high confidence in the economy.

Categories	Experts										Laypeople										Total
	Low confidence n = 76					High confidence n = 80					Low confidence n = 83					High confidence n = 70					
	1	2	3	4	f	1	2	3	4	f	1	2	3	4	f	1	2	3	4	f	
Actors	2	3	3	3	11	2	0	1	2	5	1	0	2	3	6	3	5	1	8	17	39
Banks	5	3	1	6	15	8	3	0	2	13	14	4	1	8	27	11	6	1	3	21	76
Chance	0	0	2	2	4	3	2	4	12	21	0	0	0	1	1	1	0	0	5	6	32
Crisis	2	3	1	7	13	6	3	5	3	17	3	1	3	5	12	1	4	6	10	21	63
Debts	2	5	7	21	35	5	4	1	17	27	4	1	7	15	27	4	5	5	17	31	120
Dues and taxes	2	1	1	9	13	0	1	5	11	17	5	4	3	10	22	2	3	6	10	21	73
Egoism	3	2	2	4	11	0	1	2	4	7	1	3	4	8	16	1	0	1	7	9	43
Financial markets	13	12	11	21	57	11	8	14	35	68	13	25	13	26	77	9	14	18	16	57	259
Fraud	1	1	0	5	7	0	0	0	3	3	3	4	2	6	15	0	1	4	9	14	39
Government bailout	1	0	1	8	10	0	1	4	5	10	0	5	0	5	10	2	0	1	10	13	43
Incompetence	2	2	3	7	14	0	3	3	6	12	1	3	1	6	11	0	1	1	7	9	46
International issues	5	5	6	21	37	5	8	2	16	31	6	2	3	12	23	3	3	3	8	17	108
Laws	0	0	0	6	6	1	0	1	2	4	1	0	1	7	9	0	1	0	4	5	24
Loss of trust	2	2	0	9	13	7	4	2	7	20	0	0	1	0	1	0	0	0	2	2	36
Managers	0	0	1	1	2	0	0	0	1	1	4	2	4	3	13	1	0	0	0	1	17
Media and communication	1	3	3	4	11	5	4	1	4	14	0	0	0	1	1	2	1	0	2	5	31
Monetary system	2	2	0	3	7	3	2	0	2	7	2	3	2	3	10	2	0	1	2	5	29
No concernment	1	0	0	2	3	2	2	2	3	9	0	0	0	0	0	2	0	0	4	6	18
Pessimism	0	2	1	1	4	2	1	0	2	5	0	0	0	1	1	0	1	0	0	1	11
Politics	0	1	0	2	3	0	0	0	1	1	0	1	3	4	8	1	1	0	1	3	15
Recession	0	0	1	1	2	1	4	3	6	14	2	1	1	7	11	2	2	0	8	12	39
Salaries and bonuses	1	2	5	9	17	0	1	1	3	5	1	2	6	7	16	0	3	2	9	14	52
Savings	3	2	3	10	18	1	2	2	6	11	3	2	4	7	16	1	3	4	10	18	63
Social issues	0	3	1	5	9	0	0	0	5	5	0	0	0	10	10	0	1	0	2	3	27
Threat	3	5	5	11	24	2	6	4	16	28	0	1	1	5	7	4	2	2	5	13	72
Unfairness	1	1	3	6	11	0	1	2	8	11	1	2	1	14	18	0	0	0	4	4	44
Value of money	4	6	5	15	30	4	7	4	13	28	8	7	2	6	23	4	2	1	6	13	94
Work problems	16	6	7	21	50	11	11	8	23	53	10	6	8	17	41	14	8	4	7	33	177
Other	4	4	1	7	16	1	0	3	12	16	0	1	1	10	12	0	0	4	5	9	53
Total	76	76	74	227	453	80	79	74	230	463	83	80	74	207	444	70	67	65	181	383	1743

Note: Column *f* refers to the absolute frequency of associations produced within an associative category and column 1 (2, 3, 4) refers to the frequency of associative categories for the first (second, third, 4–8) association produced within the associative task.

Note: E− = Experts low confidence (*n* = 76), E+ = Experts high confidence (*n* = 80), L− = Laypeople low confidence (*n* = 83) and L+ = Laypeople high confidence (*n* = 70). The numbers refer to the position of a category within the sequence of the associative task: 1 = category was the first association, 2 = category was the second association, 3 = category was the third association and 4 = category was the fourth and further associations.

Fig. 2. Results of the correspondence analysis of associations to the *financial/economic crisis* by experts and laypeople with low versus high confidence in the economy and sequence of associations.

The ongoing production of associations led toward concrete emotionally threatening thoughts, such as unfairness, threat, egoism, and the incompetence of economic and political actors.

3.1.2. Evaluation of the financial/economic crisis

Evaluations of the associations as positive, neutral, or negative were used to compute and analyze polarity indices. A polarity index results from the difference between the frequency of positive and negative associations related to the total frequency of associations produced by a participant. It ranges from −1 (negative attitude) to +1 (positive attitude).

A 2 × 2 analysis of variance with experts and laypeople and confidence[4] as independent factors and the polarity index as a dependent variable was calculated. No significant interaction effect was found ($F(1, 305) = 0.25$, $p = 0.62$). However, both main effects were significant (Table 3): experts evaluated the crisis less negatively than laypeople ($F(1, 305) = 4.48$, $p = 0.04$, $\eta_p^2 = 0.01$), and respondents with low confidence evaluated the crisis more negatively than participants with high confidence ($F(1, 305) = 8.91$, $p = 0.003$, $\eta_p^2 = 0.03$).

3.2. Social representations of economic stakeholders

3.2.1. Semantic content of the social representations of economic stakeholders

The content of the social representations of the stimuli financial institutions/banks, managers/entrepreneurs, politicians/government, and consumers/customers was analyzed in the same way as the social representations of the financial/economic crisis. Firstly, the frequency and mean rank of associations was calculated. Secondly, the associations were categorized and the frequencies of categories were analyzed by correspondence analysis.
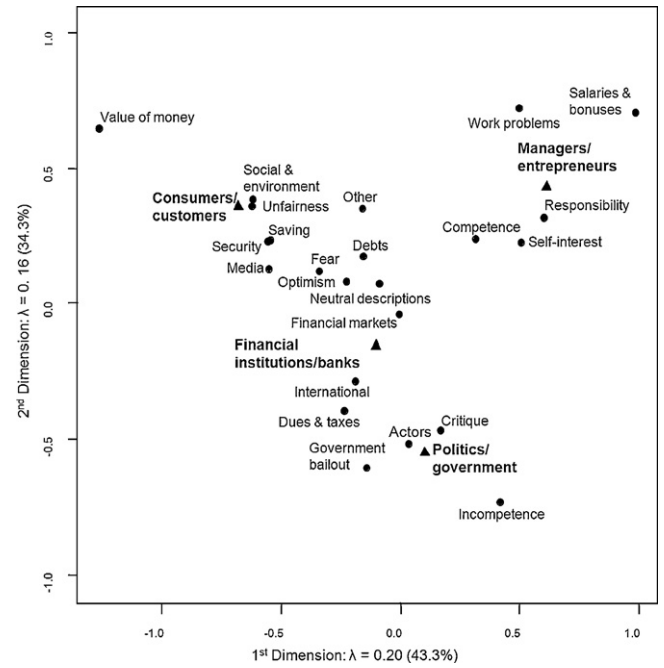

Fig. 3. Results of the correspondence analysis of associations to economic stakeholders.

The frequency of associations and the mean rank of associations in the association process were calculated for every stimulus. The stimulus of financial institutions/banks evoked 1533 associations, of which 737 were different. The most frequently mentioned associations were interest, credit, and account books (Table 1). The stimulus managers/entrepreneurs evoked 1434 associations, of which 747 were different: responsibility, high salaries, and salaries too high were the three most frequently mentioned terms. The stimulus politicians/government evoked 1534 associations of which 798 were different. The three most frequently associated terms were election, incompetence, and dishonesty. For the stimulus consumers/customers, 1306 associations were counted, of which 711 were different. The three most frequent associations were consumer protection, rising prices, and buying. These associations can be interpreted as the core of the social representations of the respective stakeholders.

The associations with economic stakeholders were categorized into a category system that was developed inductively by the authors in cooperation with five psychologists. Subsequently, two independent raters were presented with the category system and asked to categorize the single associations deductively. The category system for associations to the stimuli financial institutions/banks, managers/entrepreneurs, politicians/government, and consumers/customers consisted of 23 categories; inter-rater agreement amounted to $\kappa = .56$.[5] The categories and frequencies of the associations of the four subsamples are displayed in Table 4. The frequencies of the association categories of experts and laypeople and confidence (for the four stakeholder stimuli) were analyzed by correspondence analysis, which yielded a two-dimensional solution resulting in levels of 43.3% and 34.3%, respectively, of explained inertia (Fig. 3).

Financial institutions/banks were represented by government bailout (e.g., government support, nationalization, aid package), rising dues and taxes (e.g., interest rate, charges, low interest

---

[4] To be consistent with the correspondence analyses, we used the dichotomized confidence scale for this analysis as well.

[5] According to Landis and Koch (1977), κ values between 0.40 and 0.60 indicate moderate agreement among raters.

Table 3
Evaluation of the stimuli.

	Experts		Laypeople		Low confidence		High confidence	
	M	SD	M	SD	M	SD	M	SD
Financial/economic crisis	−0.62	0.42	−0.72	0.41	−0.74	0.37	−0.60	0.45
Stakeholders								
Financial institutions/banks	−0.08	0.61	−0.40	0.58	−0.38	0.56	−0.09	0.64
Managers/entrepreneurs	−0.21	0.63	−0.37	0.60	−0.41	0.59	−0.16	0.62
Politicians/government	−0.41	0.58	−0.52	0.52	−0.56	0.49	−0.37	0.59
Consumers/customers	−0.16	0.63	−0.11	0.67	−0.24	0.62	−0.02	0.67

Note: M = mean polarity index (negative sign indicates a negative evaluation, positive sign indicates a positive evaluation), SD = standard deviation.

rates for savings), and international issues (e.g., Eastern Europe, globalization, USA). Managers/entrepreneurs were represented as receiving high salaries and bonuses (high salaries, too high salaries, bonuses) and were seen as having work problems (e.g., stress, burnout, unemployment) and particular responsibilities (e.g., high responsibility, no sense of responsibility). They were also represented as pursuing their own self-interest (e.g., greed, egoism, profit seeking) and as being competent (e.g., executive, effort, power). Politicians/government were criticized (e.g., dishonesty, quarrels, cronyism) and seen as incompetent (incompetence, overstrained, big talk, no action). Furthermore, specific actors were mentioned (e.g., the political parties in Austria). Consumers/customers were represented as facing a loss of money value (e.g., rising prices, price comparison, inflation). Moreover, they were related to unfairness (e.g., exploitation, sufferer, payer) and social as well as environmental issues (e.g., quality, poverty, organic food).

3.2.2. Evaluation of economic stakeholders

The polarity indices were computed based on the associations with the four stakeholders. A $2 \times 2 \times 4$ analysis of variance was computed with experts versus laypeople and confidence[6] as between-subject factors, the four stimuli as within-subject factors,[7] and the polarity index as the dependent variable. No significant three-way interaction effect ($F(2.93, 892.15) = 0.47, p = 0.70$), no significant two-way interaction effect for confidence and the four stimuli ($F(2.93, 892.15) = 0.40, p = 0.75$), and no significant two-way interaction effect for experts and laypeople and confidence ($F(1, 305) = 1.75, p = 0.19$) resulted. However, a significant two-way interaction effect for experts and laypeople and the four stimuli was found ($F(2.93, 892.15) = 7.21, p < 0.001, \eta_p^2 = 0.02$). Experts evaluated financial institutions/banks ($F(1, 305) = 21.55, p < 0.001, \eta_p^2 = 0.07$) and managers/entrepreneurs ($F(1, 305) = 4.55, p = 0.001, \eta_p^2 = 0.02$) less negatively than laypeople did (Table 3). No differences were confirmed for experts' and laypeople's evaluations of politicians/government ($F(1, 305) = 2.36, p = 0.13$) and consumers/customers ($F(1, 305) = 0.69, p = 0.41$).

All three main effects achieved significance: participants with high confidence evaluated stakeholders less negatively than participants with low confidence did ($F(1, 305) = 24.34, p < 0.001, \eta_p^2 = 0.07$). The main effects for experts and laypeople ($F(1, 305) = 6.79, p = 0.01, \eta_p^2 = 0.02$) and the four stimuli ($F(2.93, 892.15) = 24.20, p < 0.001, \eta_p^2 = 0.07$) were also statistically significant, but because of the significant two-way interaction between experts and laypeople and the four stimuli, these effects were not interpreted.

3.3. Trust in economic stakeholders

The following section presents an analysis of trust in economic stakeholders by experts and laypeople with low versus high confidence, with the aim of exploring the relationship of stakeholders' trustworthiness and confidence in economic recovery.

A $2 \times 2 \times 4$ analysis of variance with experts and laypeople and confidence[8] as between-subject factors, the four stakeholders as within-subject factors,[9] and the index of trust as a dependent variable yielded no significant three-way interaction effect ($F(2.91, 887.44) = 0.84, p = 0.47$) and no two-way interaction effect between experts and laypeople and confidence ($F(1, 305) = 1.20, p = 0.27$). The two-way interaction effects between experts and laypeople and the four stakeholders ($F(2.91, 887.44) = 52.27, p < 0.001, \eta_p^2 = 0.15$) and between confidence and the stakeholders ($F(2.91, 887.44) = 5.86, p = 0.001, \eta_p^2 = 0.02$) achieved some significance. Laypeople evaluated financial institutions/banks, managers/entrepreneurs, and politicians/government as being less trustworthy than the experts did (Table 5), and consumers/customers as being more trustworthy than the experts did. Participants with low confidence evaluated financial institutions/banks, managers/entrepreneurs, and politicians/government as less trustworthy than participants with high confidence did, and consumers/customers as equally trustworthy. Three main effects also reached significance (experts versus laypeople: $F(1, 305) = 45.52, p < 0.001; \eta_p^2 = 0.13$; confidence: $F(1, 305) = 28.58, p < 0.001, \eta_p^2 = 0.09$); four stakeholders: $F(2.91, 887.44) = 130.13, p < 0.001, \eta_p^2 = 0.30$. Owing to significant interaction effects, the main effects were not interpreted.

4. Discussion

The aim of the present study was to map the social representations of the financial and economic crisis and economic stakeholders. The study contributes to the understanding of the processes of psychological sense-making of an unfamiliar event by considering experts' and laypeople's associations with the crisis and the related stakeholders, and by taking their confidence in the economic recovery into account. Prior research has shown that experts hold different representations of economic topics and evaluate intervention strategies based on different criteria than laypeople (Haferkamp et al., 2009). Also, confidence in terms of economic optimism seems to be relevant to understanding people's representations of economic phenomena (Akerlof and Shiller, 2009; Earle, 2009).

The free association method used, focuses on spontaneous associations with relevant stimuli. The method allows participants great

---

[6] To be consistent with the correspondence analyses, we used the dichotomized confidence scale for this analysis as well.

[7] As sphericity could not be assumed, we used the Greenhouse–Geisser adjustment.

[8] To be consistent with the correspondence analyses, we used the dichotomized confidence scale for this analysis as well.

[9] As sphericity could not be assumed, we used Greenhouse–Geisser adjustment.

Table 4
Frequencies of categorized associations to economic stakeholders.

Categories	Financial institutions/banks					Managers/entrepreneurs					Politicians/government					Consumer/costumer				
	E−	E+	L−	L+	f	E−	E+	L−	L+	f	E−	E+	L−	L+	f	E−	E+	L−	L+	f
Actors	49	37	34	43	163	11	18	12	12	53	40	31	62	61	194	11	11	8	13	43
Competence	29	31	7	12	79	40	50	17	28	135	18	15	13	14	60	13	8	19	11	51
Critique	50	53	73	39	215	72	46	71	39	228	166	145	175	116	602	31	39	37	25	132
Debts	6	3	8	11	28	7	5	6	3	21	10	1	2	1	14	11	5	5	5	26
Dues and taxes	22	15	48	37	122	5	1	2	1	9	14	14	17	14	59	9	9	11	5	34
Fear	9	11	5	3	28	6	5	2	2	15	2	7	6	2	17	13	17	1	2	33
Financial markets	48	52	42	40	182	13	13	11	9	46	1	0	0	0	1	6	4	2	3	15
Government bailout	8	10	10	12	40	0	1	0	0	1	6	10	6	1	23	2	2	0	1	5
Incompetence	2	0	1	0	3	6	0	8	3	17	19	13	16	7	55	2	0	0	0	2
International	8	11	3	4	26	0	1	1	4	6	10	4	1	3	18	3	4	5	0	12
Media and communication	25	15	6	7	53	1	5	4	3	13	5	10	4	2	21	17	13	13	18	61
Neutral descriptions	83	85	57	63	288	49	51	53	48	201	52	66	40	72	230	78	70	81	104	333
Optimism	5	6	0	1	12	7	8	1	2	18	12	5	0	4	21	9	7	0	6	22
Responsibility	18	19	10	5	52	34	45	30	29	138	11	15	8	13	47	7	7	6	1	21
Salaries and bonuses	12	9	10	15	46	62	66	70	63	261	8	6	4	5	23	2	5	2	1	10
Savings	13	7	10	10	40	6	7	3	0	16	5	4	3	6	18	22	21	11	7	61
Security	10	4	3	4	21	2	3	1	0	6	2	1	0	1	4	3	11	5	3	22
Self-interest	9	1	18	7	35	19	6	34	20	79	14	8	8	5	35	7	3	4	2	16
Social and environment	2	6	2	0	10	8	3	5	4	20	7	10	4	6	27	25	21	21	8	75
Unfairness	3	7	19	9	38	14	4	9	9	36	9	4	20	2	35	28	23	50	29	130
Value of money	4	5	6	6	21	1	0	0	0	1	4	2	0	0	6	38	37	34	28	137
Work problems	7	7	0	1	15	24	27	15	21	87	3	3	1	2	9	13	9	3	6	31
Other	4	7	3	2	16	6	7	6	8	27	4	5	1	5	15	8	10	6	10	34
Total	426	401	375	331	1533	393	372	361	308	1434	422	379	391	342	1534	358	336	324	288	1306

Note: Column *f* refers to the absolute frequency of a category per stimuli (see Table 1). E− = Experts low confidence ($n = 76$), E+ = Experts high confidence ($n = 80$), L− = Laypeople low confidence ($n = 83$) and L+ = Laypeople high confidence ($n = 70$).

Table 5
Trust in the economic stakeholders.

Stakeholders	Experts		Laypeople		Low confidence		High confidence	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Financial institutions/banks	3.21	1.09	4.72	1.05	4.32	1.31	3.57	1.19
Managers/entrepreneurs	4.36	1.08	4.99	1.11	4.90	1.13	4.43	1.10
Politicians/government	4.97	1.04	5.19	1.05	5.28	1.01	4.87	1.05
Consumers/customers	4.01	0.83	3.78	0.94	3.93	0.91	3.86	0.88

Note: *M* = mean trust in stakeholders (1 = trust, 7 = no trust; SD = standard deviation.

freedom to express their thoughts about the issues of interest rather than confronting them with a structured questionnaire or interview that directs respondents in a predetermined direction. Since our interest was in investigating a novel social phenomenon, the choice of the research method was highly relevant and the criteria of least structure and maximum individual freedom to express one's own thoughts was crucial. While the method has its undisputed advantages, its disadvantage lies in not confirming hard facts and leaving space for interpretation and speculation.

Nonetheless, we believe that this study provides important insights not only of the representations of the crisis, but of economic analyses of crises in general. Firstly, the present study, conducted at a certain historical moment, could be referred to in future research on social representations of the current crisis to gain insights into how social representations of the crisis develop over the course of time. Secondly, the results of this study will be useful for researchers in the future who want to analyze the way the public makes sense of economic crises. Thirdly, the mixed-methods approach of the present study allows more robust conclusions than studies which use only a qualitative or quantitative approach. Fourthly, insights into the social representations of the crisis contribute to a better understanding of individuals' interpretations of what happened and in turn to a better understanding of individuals' economic decision-making and behavior in the context of an economic crisis. Finally, the understanding of individuals' sense making can be used to derive measures to increase public confidence in the economy.

The present study shows what financial experts and laypeople associate with the financial and economic crisis, which core concepts define their representations, and how they evaluate the crisis and economic stakeholders. Although financial experts and laypeople share specific social representations, they also differ in specific aspects of their social representations of the crisis and the role of economic stakeholders in the crisis.

Similarly to a study on the social representations of the crisis, conducted in France one year prior to ours (Roland-Lévy et al., 2010), we found that, above all, individuals are concerned about the deteriorating development of the labor market, particularly the risk of losing their own jobs. Another crucial element comprises the financial market, its malfunctioning, and the negative consequences for the real economy. The understanding of the crisis with the means of economic variables (unemployment, the influence of the financial market on the real market) defines the core of the social representation of the crisis and seems to reflect the media coverage (de Rosa and Bulgarella, 2009). This core social representation of the crisis does not vary between experts and laypeople with low versus high confidence.

Interestingly, no social representation of the crisis of experts and laypeople with low versus high confidence has criticism of the economic system in general at its core. Although criticism of the economic system, in particular neoliberalism, was part of the public discourse and of media coverage (Kotz, 2009), we rarely found such views in the data.

The concept of the financial crisis as the result of economic incompetence and moral failings was important in experts' and laypeople's social representations and confidence in the economic recovery (Leiser et al., 2010). However, experts and laypeople differ in who they represent as incompetent and immoral. While laypeople with low confidence associate managers, politicians, and unfairness with the crisis, laypeople with high confidence thought of specific actors and fraud. This result suggests that laypeople with low confidence lack specific knowledge related to the crisis and adopt the generalized conviction of managers and politicians. In contrast, laypeople who know specific names and therefore can be seen as more informed, do not seem to have the impression that the whole population of managers and politicians is incompetent or immoral. Consequently, laypeople with a differentiated view on the role of managers and politicians are those with high confidence in the economic recovery. Experts with high confidence judged the crisis as hype provoked by media journalists, whereas experts with low confidence also referred to international developments and economic variables (i.e., the volatility of money). This result suggests – given the fact that the crisis of 2008 was one of the largest economic crisis of the past – that experts with high confidence in the economy are not recognizing the biggest problems in the economy and are willing to see the crisis solely as media hype. In contrast, experts with low confidence in the economy are less focused on finding somebody to blame. They concentrate on the larger picture related to future economic relevant developments, namely international developments and possible inflation.

As expected, experts associated more abstract terms (e.g., value of money, loss of trust) with the crisis than laypeople, who predominantly mentioned concrete aspects (e.g., stakeholders, names of personalities in politics and in the economy) and moral issues (e.g., unfairness, egoism, fraud; Ernst-Vintila et al., 2011; Leiser et al., 2010). The less abstract associations of laypeople and the high degree of personalization resemble to a great extent the populist explanations of the origins of the crisis forwarded by the media. Because experts hold less negative representations of the crisis than laypeople and also because of the non-significant interaction effects between experts and laypeople and confidence, it can be assumed that expertise and the knowledge of economic issues are fundamental for confidence in the economic recovery (Castelfranchi and Falcone, 2010; Leiser et al., 2010). The social representation of the crisis of experts and laypeople with low versus high confidence can thus be seen as robust. As displayed in Fig. 1, the structure presented explains about 85% of the variability in the data.

Despite the differences mentioned between experts and laypeople, the analysis of the sequences of associations revealed that the subgroups only mentioned heterogeneous terms at the beginning of the associative process. The longer they were confronted with the stimulus of the financial/economic crisis, the more often subgroups expressed similar terms related to negative emotions, such as unfairness, egoism, and threat. As depicted in Fig. 2, the tendency of all subgroups to end their associative process with unfairness, egoism and threat explains about 45% of variability in the data and therefore can be interpreted as being relatively strong.

At the time the present study was carried out, the financial and economic crisis was still dominating the media but opinions about how to cope with the crisis as well as opinions about its further development were far from consistent. The uncertainty among experts and laypeople might have first led to descriptive

concepts of the crisis and only during the ongoing associating process did their underlying emotional concerns surface. Since all of our participants, including experts and laypeople with low and high confidence alike, ended their associative process with highly loaded emotional expressions related to unfairness and egoism, it can be assumed that this reflects the general emotional social representation of the crisis. We believe that this pattern, displayed in Fig. 2, provides additional evidence that emotional judgments about morality and competence play a more important role than economic variables in the social representations of the crisis (Akerlof and Shiller, 2009; Leiser et al., 2010). Future studies of the subject may show if the outcomes of this study are prototypical or if social representations differ because of country specifications, the specifications of the sample, or the specifications of the crisis.

Regarding the social representations of economic stakeholders, we found that, contrary to our assumptions, financial institutions/banks were represented neutrally. Only in comparison with other stakeholders did 'negative' terms such as bailout, rising dues and taxes, and international issues appear. Moreover, experts and participants with high confidence rated financial institutions/banks as being more positive and trustworthy than other stakeholders did. The positive evaluations of financial institutions/banks by the experts stem from identifications with their employers (Jones and George, 1998; Kramer and Wei, 1999; Tanis and Postmes, 2005). Experts belong to the same in-group as the evaluated stakeholder and thereby may have been motivated to protect their identities through positive representations of the own social group (Joffe, 2003; Howarth, 2002). Mangers/entrepreneurs were represented as having high salaries and bonuses, but also responsibility (positive and negative) and work problems. Experts and participants with high confidence rated managers/entrepreneurs as being more positive and trustworthy than laypeople and participants with low confidence did. Laypeople – particularly those with low confidence – represented financial institutions/banks and managers/entrepreneurs as self-interested and unfair. Politicians/government were represented by criticisms, in particular by incompetence and unfairness, which was related to political parties. Compared with other stakeholders, politicians/government were represented most negatively and as being the least trustworthy. However, experts and participants with high confidence rated them as more positive, more trustworthy, and less unfair than laypeople and participants with low confidence did. Finally, consumers/customers were represented as powerless (needing protection, and being affected by rising prices and unfairness). Overall, this stakeholder group received the least amount of negative associations. Owing to possible identification processes, laypeople saw consumers/customers as more trustworthy than experts did and rated them as being more trustworthy, honest, transparent, value congruent, fair, and competent than experts did. As Fig. 3 shows, the structure of the social representations of economic stakeholders explains about 77% of variability in the data and can be seen as robust. The high η^2 of 0.15 indicates that experts and laypeople differ strongly in their trust in economic stakeholders. Accordingly, the results about the social representations of economic stakeholders help to understand the social representations of the crisis in a more elaborated way.

Three important psychological determinants seem to shape the social representation of the crisis: an identification-based self-serving bias, economic knowledge, and strong threatening emotions and negative attitudes. All these processes seem to interact with each other in shaping the social representations of experts' and laypeople with low versus high confidence. Laypeople in particular, even more so than experts, tend to attribute the economic crisis to those economic stakeholders who are not perceived as being in-group members. Laypeople predominantly blame managers, while experts predominantly blame the media and both

blame the politicians. The blamed stakeholder is perceived as incompetent, immoral and thus not trustworthy. This indicates that experts as well as laypeople tend to attribute economic shocks to external factors, in particular to economic stakeholders which are perceived as an out-group. This strong tendency of making sense of economic developments as a way of protecting the self from threats needs to be investigated in future research (Campbell and Sedikides, 1999; Joffe, 2003; Howarth, 2002). We can assume that this identification-based self-protection bias is a reason why it is difficult to motivate individuals to accept economic measures to combat the crisis in a way that could also affect their daily routine.

Secondly, expertise and differentiated economic knowledge seem to play an important role in terms of having confidence in the economic recovery. Experts in general had more confidence in the economic recovery than laypeople. Laypeople with a differentiated view on the crisis not only avoided generalized convictions of specific stakeholders, but also had more confidence in the economic recovery. This highlights the importance of economic knowledge for having confidence in the economy. Accordingly, this result suggests that measures to increase public knowledge on economics would increase general confidence – which is an essential aspect for economic prosperity (Akerlof and Shiller, 2009; Earle, 2009).

Thirdly, threatening emotions and negative attitudes such as the opinion that the economy is strongly related to unfairness and egoism are predominant in all subgroups' social representations. The sequences of associations showed that all subgroups irrespective of expertise and confidence have strong threatening emotions and attitudes underlying the surface of the social representation of the crisis. This indicates that experts as well as laypeople are highly concerned and insecure about the crisis. It also suggests that the economic stakeholders, in particular the politicians, should convince the public that they are able to establish a fair economic system in which the egoism of an individual cannot endanger the entire economy.

The results of the present study indicate that economic variables are without a doubt important for maintaining current confidence (e.g., unemployment) but not for regaining confidence. Instead, differentiated economic knowledge should be provided to the public and the emotions of the public concerning the crisis should be addressed to regain public confidence. The more individuals know about the economy, the more they have confidence that the economy will recover. The less individuals perceive that unfair and egoistic practices are the main driver in the economy, the more they will trust specific stakeholders and the more they will have confidence in the economy. The perception of competent and moral political leaders seems essential, in particular for laypeople, to regain confidence in the economy. It seems that, in conditions affected by fundamental economic shocks, trust in political leaders becomes the core factor, determining public confidence in the economy and creating optimism about long-term investments and economic recovery.

Acknowledgments

References

Abric, J.C., 1993. Central system, peripheral system: their functions and roles in the dynamics of social representations. Papers on Social Representations 2, 75–78.
Akerlof, G.A., Shiller, R.J., 2009. Animal Spirits: How Human Psychology Drives the Economy, and Why it Matters for Global Capitalism. Princeton University Press, Princeton.

Akerlof, G.A., Kranton, R.E., 2000. Economics and identity. The Quarterly Journal of Economics 115, 715–753.

Anderson, C., 1995. Blaming the Government: Citizens and the Economy in Five European Democracies. M. E. Sharpe, New York.

Arup, C., 2010. The global financial crisis: learning from regulatory and governance studies. Law & Policy 32, 363–381.

Brändle, S., 2010, 12 February. Der Finanzsektor frisst die übrige Wirtschaft. Der Standard, Retrieved from http://derstandard.at/1265852121668/Der-Finanzsektor-frisst-die-uebrige-Wirtschaft.

Campbell, W.K., Sedikides, C., 1999. Self-threat magnifies the self-serving bias: a meta-analytic integration. Review of General Psychology 3, 23–43.

Castelfranchi, C., Falcone, R., 2010. Trust Theory: A socio-cognitive and Computational Model. John Wiley, West Sussex. UK.

de Rosa, A.S., 1995. Le réseau d' associations comme méthode d'ètude dans la recherche sur les représentationes sociales: structure, contenus et polarité du champ sèmantique. Cahiers Internationaux de Psychologie Sociale 28, 96–112.

de Rosa, A.S., Bulgarella, C., 2009. Good real economics versus bad virtual finance: a rhetorical device in the media and expert discourse. Paper presented at the IAREP and SABE Joint Conference Behavioural Economics. Economic Psychology: Theory and Policy.

Doise, W., Clémence, A., Lorenzi-Cioldi, F., 1993. The Quantitative Analysis of Social Representations. Harvester Wheatsheaf, Hemel Hempstead.

Doise, W., Spini, D., Clémence, A., 1999. Human rights studied as social representations in a cross-national context. European Journal of Social Psychology 29, 1–29.

Earle, T.C., 2009. Trust, confidence, and the 2008 global financial crisis. Risk Analysis 29, 785–792.

Ernst-Vintila, A., Delouvée, S., Roland-Lévy, C., 2011. Under threat – lay thinking about terrorism and the three-dimensional model of personal involvement: a social psychological analysis. Journal of Risk Research 14, 297–324.

Gärling, T., Kirchler, E., Lewis, A., van Raaij, F., 2010. Psychology, financial decision making, and financial crisis. Psychology in the Public Interest 10, 1–47.

Greenacre, M., 2007. Constructing maps of data using correspondence analysis. BBVA Foundation Newsletter 6, 16–17.

Haferkamp, A., Fetchenhauer, D., Belschak, F., Enste, D.H., 2009. Efficiency versus fairness: the evaluation of labor market policies by economists and laypeople. Journal of Economic Psychology 30, 527–539.

Howarth, C., 2002. Identity in whose eyes? The role of representations in identity construction. Journal for the Theory of Social Behaviour 32, 145–162.

Joffe, H., 2003. Risk: from perception to social representation. British Journal of Social Psychology 42, 55–73.

Jones, G.R., George, J.M., 1998. The experience and evolution of trust: implications for cooperation and teamwork. The Academy of Management Review 23, 531–546.

King-Casas, B., Tomlin, D., Anen, C., Camerer, C.F., Quartz, S.R., Montague, P.R., 2005. Getting to know you: reputation and trust in a two-person economic exchange. Science 308, 78–83.

Kirchler, E., de Rosa, A.S., 1996. Wirkungsanalyse von Werbebotschaften mittels Assoziationsgeflecht: Spontane Reaktionen auf überlegte Beschreibungen von Benetton-Werbebildern. Jahrbuch der Absatz- und Verbraucherforschung 42, 67–89.

Kotz, D.M., 2009. The financial and economic crisis of 2008: a systemic crisis of neoliberal capitalism. Review of Radical Political Economics 41, 305–317.

Kramer, R.M., Wei, J., 1999. Social uncertainty and the problem of trust in social groups: the social self in doubt. In: Tyler, T.R., Kramer, R.M., John, O.J. (Eds.), The Psychology of the Social Self. Lawrence Erlbaum, New Jersey, N, pp. 145–168.

Landis, J.R., Koch, G.G., 1977. The measurement of observed agreement for categorical data. Biometrics 33, 321–325.

Leiser, D., Aroch, R., 2009. Lay understanding of macroeconomic causation: the good-begets-good heuristic. Applied Psychology 58, 370–384.

Leiser, D., Bourgeois-Gironde, S., Benita, R., 2010. Human foibles or systemic failure: lay perceptions of the 2008-2009 financial crisis. Journal of Socio-Economics 39, 132–141.

Leiser, D., Drori, S., 2005. Naïve understanding of inflation. Journal of Socio-Economics 34, 179–198.

Liu, J.H., Hilton, D.J., 2005. How the past weighs on the present: social representations of history and their role in identity politics. British Journal of Social Psychology 44, 537–556.

Lo Monaco, G., Guimelli, C., 2011. Hegemonic and polemical beliefs: culture and consumption in the social representations of wine. Spanish Journal of Psychology 14, 237–250.

Luhmann, N. (Ed.), 2000. Vertraue:. Ein Mechanismus der Reduktion sozialer Komplexität. Lucius & Lucius, Stuttgart, Germany.

Mayer, T., 2010, 3 February. Griechischer Haushalt unter EU-Kuratel. Der Standard, Retrieved from http://derstandard.at/1263706634493/EU-verschaerft-Kontrolle-Griechischer-Haushalt-unter-EU-Kuratel.

Moscovici, S., 1961/1976. La psychoanalyse, son image et son public. Presse Universitaire de France, Paris.

Moscovici, S., 2001a. Introduction. In: Roland-Lévy, C., Kirchler, E., Penz, E., Gray, C. (Eds.), Everyday Representations of the Economy. WUV, Vienna.

Moscovici, S., 2001b. Why a theory of social representations? In: Deaux, K., Philogène, G. (Eds.), Representations of the Social: Bridging Theoretical Traditions. Blackwell, Oxford.

Nelson, D.L., McEvoy, C.L., Dennis, S., 2000. What is free association and what does it measure? Memory & Cognition 28, 887–899.

Nenadic, O., Greenacre, M., 2007. Correspondence analysis in R, with two- and three-dimensional graphics: the CA package. Journal of Statistical Software 20, 1–13.

Nooteboom, B., 2002. Trust: Forms, Foundations, Functions, Failures and Figures. Edward Elgar, Northampton.

Oswald, G., 2010, 1 February. 402.000 ohne Job: Höchster Wert in der Zweiten Republik. Der Standard, Retrieved from http://derstandard.at/1263706418385/402000-ohne-Job-Hoechster-Wert-in-Zweiter-Republik.

Pfister, H.R., Böhm, G., 2008. The multiplicity of emotions: a framework of emotional functions in decision making. Judgment and Decision Making 3, 5–17.

Pirson, M., 2008. Unconventional insights for managing stakeholder trust. MIT Sloan Management Review 49, 43–50.

Ravenna, M., Speltini, G., Kirchler, E., 1998. Gi animali nelle rappresentazioni umane: una prova di associazioni libere. Rassegna di Psicologia 15, 127–141.

Rouquette, M.-L., 1996. Social representations and mass communication. Journal of the Theory of Social Behaviour 26, 221–231.

Roland-Lévy, C., Pappalardo Boumelki, F.-E., Guillet, E., 2010. Representation of the financial crisis: effect on social representations of savings and credit. The Journal of Socio-Economics 39, 142–149.

Slovic, P.M., Finucane, E., Peters, E., MacGregor, D.C., 2002. The affect heuristic. In: Gilovich, T., Griffin, D., Kahneman, D. (Eds.), Heuristics and Biases: The Psychology of Intuitive Judgment. Cambridge University Press, Cambridge, pp. 397–420.

Tanis, M., Postmes, T., 2005. A social identity approach to trust: interpersonal perception, group membership and trusting behaviour. European Journal of Social Psychology 35, 413–425.

Turner, J.C., 1987. Rediscovering the Social Group: A Self-categorization Theory. Blackwell, New York.

Vergès, P., 1992. L'evocation de l'argent: une mèthode pour la définition du noyau central d'une représentation. Bulletin de Psychologie 45, 203–209.

Voracek, M., Jandl-Jager, E., Springer-Kremser, M., 2001. Medical students' attitudes towards psychotherapy: an intervention-based pre-post comparison. The Middle European Journal of Medicine 113, 416–423.

Wagner, W., Duveen, G., Farr, R., Jovchelovitch, S., Lorenzi-Cioldi, F., Marková, I., Rose, D., 1999. Theory and method of social representations. Asian Journal of Social Psychology 2, 95–125.

Zajonc, R.B., 1980. Feeling and thinking: preferences need no inferences. American Psychologist 35, 151–175.

Mag. **Katharina Gangl**, born in 1983 in Styria, Austria, holds a prae-doc position at the Faculty of Psychology at the University of Vienna and is enrolled in the PhD program in Psychology. Her PhD thesis is on trust in economic authorities and strategies to maintain and regain trust.

Mag. Dr. **Barbara Kastlunger**, born in 1978 in South Tirol, Italy, held a prae-doc position at the Faculty of Psychology at the University of Vienna until 2010 when she finished her PhD. She is interested in tax psychology and decision making and has published several articles in this area.

Prof. Dr. **Erich Kirchler**, born in 1954 in South Tirol, Italy, is professor for economic psychology at the University of Vienna and specializes in tax psychology. He is currently Vice Dean of the Faculty of Psychology and Vice Head of Department for Economic Psychology, Educational Psychology and Evaluation. He is the editor of the *Journal of Economic Psychology* and is on the editorial board of many leading journals. Erich Kirchler has published numerous scientific articles and books dealing with economic psychology, predominantly with money management and tax behavior. In 2007, his book *The Economic Psychology of Tax Behaviour* was published by Cambridge University Press.

Martin Voracek, DSc, DMSc, PhD, is an associate professor, Head of the Research Methods Unit, and Deputy Head of the Department of Basic Psychological Research, Faculty of Psychology, at the University of Vienna, Austria. His current research interests include methodology for and applications of research synthesis (meta-analysis and systematic reviews), individual differences research, and suicidology.