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## Changes in Young Europeans' Values During the Global Financial Crisis

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**Abstract**

We investigate the impact of the global financial crisis (GFC) on the personal values of youth and young adults (age 16–35 years) from 16 European countries. Using time series cross-sectional (TSCS) data from seven waves (2002–2014) of the European Social Survey (ESS), we examined (1) whether the GFC led to value shifts between cohorts of young people and (2) whether welfare state provision moderate the expected value shifts. Multilevel analyses showed that, following the GFC, the importance of security, tradition, benevolence and, to a lesser extent, conformity values increased. In contrast, hedonism, self-direction, and stimulation values decreased. In line with our moderation hypothesis, power and, to a lesser extent, achievement values increased following the GFC in countries low on welfare expenditures but decreased in countries high on welfare expenditures. Contrary to expectations, increases in tradition and benevolence values were more pronounced in high-welfare countries.

### Changes in Young Europeans' Values During the Global Financial Crisis

In the wake of the global financial crisis (GFC) that depressed the world economy after 2008, almost one third of youth (<18 years) in the European Union were at risk of poverty or social exclusion (Schraad-Tischler, 2015). Many suffered dire economic consequences, were unable to find training or work, and experienced years of under- or unemployment (Scarpetta, Sonnet, & Manfredi, 2010). How might this period of uncertain economic circumstances affect young people's outlook on life? To address this question, we examine whether the GFC affected young people's (age 16 to 35) basic personal values (Schwartz, 1992). Personal values define what is important and desirable in life, the goals that guide attitudes and behaviours (Rokeach, 1973; Schwartz, 1992). Values are relatively stable motivational characteristics. However, individuals' value priorities do change during the life course and in response to major changes in life circumstances (Bardi et al., 2014; Bardi & Goodwin, 2011; Bardi, Lee, Hofmann-Towfigh, & Soutar, 2009).

Our study has two main objectives. First, we assess whether European young people's values changed predictably after the onset of the GFC. We build on recent models of value change (Bardi & Goodwin, 2011; Bardi et al., 2009) to predict how the GFC changed cohorts of youth's priorities for specific values by considering the motivational underpinnings of each value (Schwartz, 2015). Second, we examine whether the level of social expenditure in a country moderated the impact of the GFC on values. We assume that the perception of uncertainty induced by the GFC was the key mechanism through which the GFC impacted young people's values. We postulate that welfare state investments tempered the sense of uncertainty and insecurity. Such investments can provide a partial safety net and buffer the effects of the GFC on values to some extent.

### Basic Personal Values

We adopt Schwartz's (1992, 2015) widely used and well-validated model of the content and structure of basic personal values. Personal values provide standards for selecting and justifying actions and evaluating situations, objects, and people (Schwartz, 1992), and predict important outcomes, such as attitudes toward immigration (Davidov, Meuleman, Billiet, & Schmidt, 2008), voting behaviors (Schwartz, Caprara, & Vecchione, 2010), and subjective well-being (Sorthaix & Schwartz, 2017).

The ten values, shown in Table 1, form a circular structure that organizes them in relation to one another based on the (in)compatibilities of their underlying motivations (Schwartz 1992; 2015). Two higher-order dimensions summarize value relations. *Self-transcendence versus self-enhancement* differentiates values that express concern for others (benevolence and universalism) from values that express a concern for one's own needs and interests (achievement and power). *Openness to change versus conservation* differentiates values that concern seeking independence of action, thought, and novelty (self-direction, stimulation, and hedonism) versus preserving the status-quo and resisting change. Schwartz (2015) further noted that the self-transcendence and openness values both express growth and self-expansive motivations that oppose the self-protection and anxiety-control motivations that conservation and power values both express.

Table 1. *Value types and their motivational goals.*

Value	Motivational goals
Achievement	Personal success, demonstrating competence according to social standards
Power	Social status and prestige, control or dominance over people and resources
Security	Safety, harmony and stability of society, of relationships, and of self
Conformity	Restraint of actions likely to upset others and violate social expectations or norms
Tradition	Respect, commitment and acceptance of the customs and ideas that traditional culture or religion provide the self
Benevolence	Preservation and enhancement of the welfare of people with whom one is in

	frequent personal contact
Universalism	Understanding, and protection for the welfare of all and the environment
Self-Direction	Independent thought and action-choosing, creating, exploring
Stimulation	Excitement, novelty and challenge in life
Hedonism	Pleasure and sensuous gratification for oneself

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### How Do Values Change?

Theorists attribute change in societal or cultural values to changing historical, ecological, economic, institutional, and cultural events and circumstances (Inglehart & Baker, 2000; Schwartz, Bardi, & Bianchi, 2000). They posit that unfavourable life circumstances lead individuals to become more materialistic, increase deference to authority, and emphasize security. In contrast, increasing prosperity and favourable life conditions lead individuals to emphasize self-expression (e.g., Inglehart & Baker, 2000; Maslow, 1943). Such changes typically require substantial time.

Analyses of short-term value changes among individuals in response to external environmental cues reveal that changes in individuals' values follow a predictable pattern. As implied by the circular structure of the Schwartz value system, increases in the importance of any given value are accompanied by decreases in opposing values in the circle (Bardi et al., 2009; Maio, Pakizheh, Cheung, & Rees, 2009). Perception of risk or threat, for example, increased the importance of self-protection values (e.g., security and tradition) while reducing the importance of growth values (e.g., stimulation and self-direction). This pattern emerged following experiences of a terrorist attack (Verkasalo, Goodwin, & Bezmenova, 2006), war (Daniel, Fortuna, Thrun, Cioban, & Knafo, 2013) and migration (Lönnqvist, Jasinskaja-Lahti, & Verkasalo, 2011).

Similar threat-driven value change might occur during a major economic crisis such as the GFC. To our knowledge, no previous research has studied the implications of the GFC for

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3 young people's value priorities in a cross-national, comparative perspective. A study in the  
4  
5 United Kingdom found increased security–conformity values after 2008 (Austin, 2016). A  
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7 study across six waves of the European Social Survey found high value stability (Tormos,  
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9 Vauclair & Dobewall, 2017). However, these studies investigated the general (adult)  
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11 population and did not consider the special impact the GFC could have on young people.  
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### 14 **The Present Study**

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16 The present study adds to the scarce body of evidence on value change following  
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18 economic crises by analysing time series cross-sectional (TSCS) data of youth and young  
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20 adults from 16 European countries. Young people are especially vulnerable to the negative  
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22 consequences of economic crises (OECD, 2015; Scarpetta, Sonnet, & Manfredi, 2010).  
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24 Elder's (1999) pioneering work demonstrated that the Great Depression affected the entire  
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26 youth population, not only those who suffered objective and persistent deprivation  
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28 personally. Economic crises put young people at risk just when they confront major  
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30 developmental tasks like transitioning from school to work and establishing themselves in the  
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32 labour market (Lechner, Tomasik, & Silbereisen, 2016). Events like the GFC may delay these  
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34 transitions, prolong the period of educational and career uncertainties, and damage long-term  
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36 status attainment (Heckausen & Schultz, 1995; Parker, Schoon, Tsai, Nagy, Trautwein, &  
37  
38 Eccles, 2012). Hence, studying effects of the GFC on young people is especially important.  
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### 43 **Hypothesized Effects of the GFC on Young People's Values**

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45 We posit that the GFC was an influential and persistent driver of value change because it  
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47 caused enduring economic insecurity that worsened young people's prospects (Danziger &  
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49 Ratner, 2010; Kalleberg, 2009; Scarpetta et al., 2010). Problems paying for or continuing their  
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51 education, difficulty finding jobs, layoffs, together with media reports of unemployment and  
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53 economic failure threatened accomplishment of young people's main developmental tasks in  
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55 work and family life. We assume that this induced a strong sense of insecurity and  
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3 uncertainty among cohorts of young people. We base our hypotheses regarding the way this  
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5 sense of uncertainty and insecurity changed specific values on the motivations underlying the  
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7 values.  
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10 ***Self-protection anxiety-control.*** Self-enhancement values (power and achievement)  
11  
12 aim to protect the self by actively controlling or overcoming threats through gaining control  
13  
14 over people and material resources, and demonstrating competence. The need to cope with  
15  
16 the harsh, challenging conditions following the GFC may have elicited greater  
17  
18 competitiveness and achievement striving—key expressions of self-enhancement values.  
19  
20 Economically challenging conditions increase materialistic values and the desire for control,  
21  
22 as do experimental manipulations intended to induce insecurity; materialism correlates highly  
23  
24 with power values (e.g., Burroughs & Rindfleisch, 2002; Kasser, Ryan, Couchman, &  
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26 Sheldon, 2004; Twenge, Baumeister, DeWall, Ciarocco & Bartels 2007). We, therefore,  
27  
28 expect that self-enhancement values became more important in response to the threats  
29  
30 triggered by the GFC.  
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34 We expect that conservation values (security, conformity, and tradition) increase in  
35  
36 importance, too. These values share self-enhancement values' self-protection and anxiety-  
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38 control motivation (Schwartz, 2015). They aim at avoiding conflict, unpredictability and  
39  
40 change through passively fitting in, conforming to group expectations, and relying on  
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42 traditional institutions and modes of thought. The importance of such values increases under  
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44 conditions of existential threat (Inglehart & Baker, 2000; Schwartz, 2015).  
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48 ***Self-expansive growth.*** These values flourish in secure, predictable, and supportive  
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50 environments that provide opportunities for attaining the goals that growth values promote  
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52 (Schwartz, 2015). When people have little chance of realizing these values, they tend to  
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54 downgrade their importance, thereby reducing frustration and adapting to prevailing  
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3 circumstances (cf. Schwartz & Bardi, 1997, on the effects of life under communist regimes  
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5 on values).  
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8 We expect that the importance of openness-to-change values (self-direction,  
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10 stimulation and hedonism) decreased in the wake of the GFC. Attaining their goals requires  
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12 the freedom and resources needed to explore and pursue ones' ideas, talents, and preferences  
13  
14 with minimal limitations and constraints. However, the GFC likely generated a perceived  
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16 sense of lost opportunities and confidence in the future. Studies of the impact on values of  
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18 major events that threaten security, such as wars (Daniel et al., 2013) and terrorist attacks  
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20 (Verkasalo et al., 2006), found that such events decreased the importance of openness to  
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22 change values.  
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25 We also expect that the GFC reduced the importance youth placed on universalism,  
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27 the value that expresses concern for the welfare of outgroup members, of the weak and  
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29 vulnerable in society, and of nature. During economic recessions, people tend to focus less on  
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31 the needs of others in the society, as evidenced by a decline in civic engagement (Clark &  
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33 Health, 2014). Fewer financial and psychological resources are available to invest in the  
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35 problems of others in the wider society, problems likely to become greater during hard times.  
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39 Benevolence, like universalism, is a self-expansive growth value. However, contrary  
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41 to universalism, we expect that benevolence values increased in importance. Benevolence  
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43 concerns protecting and enhancing the well-being of close others, family, and friends. We  
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45 assume that concern for close others increases in times of crisis as people seek and give  
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47 support to members of their in-group. Social bonds have a buffering effect in the presence of  
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49 stress (Cohen, & Wills, 1985). During the economic recession in the US, people concerned  
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51 themselves more with family and close acquaintances and valued helping them more  
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53 (benevolence) but people showed no greater concern for their community or the environment  
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55 (universalism) (Greenfield, 2009; Park, Twenge & Greenfield, 2014, 2017).  
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3 In sum, we expect that the importance of self-protection anxiety-control values  
4 (conservation, and self-enhancement) increased (Hypothesis 1) and the importance of self-  
5 expansion growth values (openness to change and universalism) decreased (Hypothesis 2)  
6 consequent upon the GFC. We expect benevolence values to increase after the GFC  
7 (Hypothesis 3). This pattern of value changes is consistent with the circular motivational  
8 structure of the ten values. We hypothesized that the protection-based values increased in  
9 importance and the growth-based values decreased. Benevolence values were the exception  
10 because they, like tradition values to which they are adjacent in the circle, emphasize  
11 preserving in-group solidarity in the face of adversity.

### 22 **The Welfare State as a Contextual Moderator of Value Change**

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25 We reason that perceptions of economic insecurity and resource scarcity induced by  
26 the GFC activated schemas of self-protection and anxiety in young people. One factor that  
27 might counter this sense of uncertainty and insecurity is the welfare state. The welfare state is  
28 a socio-political institution explicitly designed to provide existential security (Wulfgramm,  
29 2014). Radcliff (2013) argued that a strong welfare state provides sources of support beyond  
30 the labour market, reduces anomie, and increases individual agency and well-being. A strong  
31 welfare state may have reduced both the real economic costs of the GFC for individuals and  
32 the perceived uncertainty/insecurity it generated. In the ESS countries, strong welfare  
33 investments reduced the impact of unemployment on subjective well-being (Wulfgramm,  
34 2014; Ochsen & Welsch, 2012). By reducing fears about future living standards, welfare  
35 investments may have offset the impact of the GFC on the wider population, not only on the  
36 unemployed or insecurely employed. We hypothesize that the strength of the welfare state,  
37 indexed by levels of national social expenditure, moderated the effect of the GFC on young  
38 people's values. We expect that the GFC produced greater shifts (whether upward or  
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downward) in the values of young people in countries that invested relatively little in social welfare versus countries that invested substantially (Hypothesis 4).

To assess whether the perception of threat and insecurity induced by the GFC influenced values beyond the effects of economic indicators, we introduced several controls. We tested whether effects of the GFC on values held after controlling for individuals' employment status and subjective income and country unemployment rates.

## Method

### Participants

We used seven biennial rounds (2002–2014) of the European Social Survey (ESS) as a quasi-panel study. The ESS data are TSCS data. That is, the ESS is best conceived of as a panel of countries, whereby a sample of individuals from each country is surveyed at each wave (but not the same individuals). The weighted ESS is a representative sample of each country's population at each wave. We studied young people (age 16 to 35) from those sixteen countries that participated in all seven ESS rounds, yielding a total sample of 54,931. Table S1 in the online supplement lists the sample size for each country in each round. For detailed information about the ESS see [www.ess.nsd.uib.no](http://www.ess.nsd.uib.no).

### Measures

**Personal values.** We measured personal values with the 21-item version of the Portrait Values Questionnaire (PVQ21) adapted by Schwartz (2005) for the ESS. Each item describes a different person in terms of what is important to him/her. Respondents are asked: "How much is this person like you?" on a scale from 1—*very much like me* to 6—*not like me at all*. We recoded responses so that high scores represent greater similarity with the portrait. We controlled for individual differences in scale use by centering individuals' value scores on their mean response (Schwartz, 1992). Reliabilities for the PVQ21 in the ESS (Greatest Lower Bound) of the two-item indexes of the values (three for universalism) averaged .53,

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3 ranging from .26 for tradition to .68 for achievement. As expected, internal consistencies  
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5 were low, because each value is intended to represent a broad concept. Multi-dimensional  
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7 scaling and multi-group confirmatory factor analyses support the equivalence of meaning of  
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9 the values across ESS countries (Bilsky, Janik, & Schwartz, 2011; Schwartz & Rubel, 2005).

11 **Individual-level controls.** First, participant's *unemployment status* was assessed by a  
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13 question about respondents' main activity during the last seven days. We recoded this  
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15 variable into three categories: "working in a paid job", "unemployed" (both actively and not  
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17 actively seeking a job), and "other" (in school, permanently sick or disabled, retired, doing  
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19 community or military service)." Missing values were .8%, .09% and .11%, respectively. We  
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21 used "working in a paid job" as the reference.  
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25 Second, we controlled for *subjective income* using the following question: "Which of  
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27 the descriptions on this card comes closest to how you feel about your household's income  
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29 nowadays?" Participants answered on a 4-point scale (1 = *living comfortably on present*  
30  
31 *income*"; 4 = "*living very difficulty on present income*"). Missing cases were 2.6%.  
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34 Third, we included three demographic variables that are related to value priorities  
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36 (Schwartz, 1992; Schwartz & Rubel, 2005): *gender* (range from 48% to 57% female by  
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38 country and 51% to 52% by ESS round), *age* (average age range from 26 to 29 by country  
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40 and 27 to 28 by ESS round) and *education* (years of full-time education; average range from  
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42 11.16 to 14.65 years by country).  
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45 **Global financial crisis (GFC).** The ESS collected data on values both before and  
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47 after the GFC from represented samples of the given populations. Thus, it replicated a natural  
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49 repeated measures quasi-experimental design. Following a quasi-experimental design, we  
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51 created a dummy variable to capture the purported effect of the GFC on young people's  
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53 values (for a similar approach see, Parker et al., 2016). This dummy variable distinguished  
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55 pre-crisis from post-crisis years. We treated the first four ESS rounds (2002, 2004, 2006, and  
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2008<sup>1</sup>) as preceding the GFC and the later three rounds (2010, 2012, and 2014) as consequent upon the GFC. This approach treats the GFC as a quasi-experimental treatment variable. Thus, the coefficient for the GFC variable represents an estimate of the average treatment effect (see, Morgan & Winship, 2014). It indicates how young people's values after the onset of the GFC in late 2008 differed from their values before the GFC.

In addition to the quasi-experimental design represented by the GFC dummy, we controlled for ESS round. The first round (2002) served as the reference. This controlled for potential trends in young people's values over time other than those related to the GFC (i.e., any trend across the waves that might bias the calculation of the GFC effect).

**Country unemployment rate.** We extracted unemployment rates for each country for each ESS round from the Organization for Economic Cooperation and development (OECD) website: <https://data.oecd.org/unemp/unemployment-rate.htm>.

**Country social expenditure.** We used the OECD index of national social expenditure comprised of cash benefits, direct in-kind provision of goods and services, and tax breaks with social purposes. This index measures countries' annual expenditure on social welfare as a percentage of GDP, making it a good indicator of the countries' overall generosity of welfare provisions (<https://data.oecd.org/socialexp/social-spending.htm>). Missing data were completed with information from Eurostat (<http://ec.europa.eu/eurostat/>). Table S4 in the supplements presents the scores on social expenditure per country by round.

### **Analytic Strategy**

Our data had a multilevel structure; individual-level responses (personal values) were nested in ESS round (controlling for time trends) and countries. There is an ongoing debate in the literature regarding whether fixed effects (FE) or random effects (RE) models are more

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<sup>1</sup> Although data for Round 4 (2008) were gathered at the end of this year, when unemployment rates started to rise in most European countries, we included this wave as pre-crisis because we assume that the GFC had lagged effects on values. Including Round 4 as pre-crisis provides more conservative estimates.

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3 appropriate for such analyses (e.g., Bryan & Jenkins, 2015). The widely used FE models  
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5 include unit dummies (i.e., one dummy for each country except a reference country) to  
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7 account for any observed or unobserved time-invariant heterogeneity between the countries.  
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10 In RE models, a random intercept is estimated as a model parameter from the data for each  
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12 country based on distributional assumptions. Multilevel models remain fairly common  
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14 despite arguments for fixed effects that a) countries are rarely sampled randomly from a  
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16 population and b) country-specific estimates can be biased when there are few countries  
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18 (Bryan & Jenkins, 2015). We take a conservative approach by reporting results from both  
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20 models. We present the results of the fixed effects model in the paper (Tables 2 and 3) but  
21  
22 only interpret results that are significant in both models<sup>2</sup>. The results from the random effects  
23  
24 models can be found in in the supplementary material (S2 and S3).  
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27 Our base FE model has the following equation:

$$28 \quad Y = GFC + Gender + Age + Education + \sum_{0 < i < n} Country_i + \sum_{0 < 1 < n} ESSround_i$$

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33 where  $Y$  is the outcome variable of interest (each value).  $GFC$  is the critical variable  
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35 representing the global financial crisis, which equals zero for ESS rounds 1 to Round 4 (until  
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37 2008) and 1 for rounds 5, 6 and 7 (after 2008). Gender, age, and years of education are  
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39 individual controls<sup>3</sup>. The two remaining terms are sets of dummy variables representing  
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41 country (Belgium is the reference category) and ESS round (round 1 is the reference  
42  
43 category) to account for potential pre-existing trends (i.e., trends present prior to the GFC). In  
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45 the RE models, country and ESS round were instead included by estimating a random  
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47 intercept.  
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52 <sup>2</sup> Although our multilevel models relied on rather few countries, they included a small number of country-level  
53 predictors and focused on the fixed effects coefficients which simplifies estimation. Also note that for  
54 estimating the interaction effects between welfare and GFC, we relied on more than 80 data points for social  
55 expenditure (one for each country per wave).

56 <sup>3</sup> Regarding age affects, we tested whether there could be an interaction between age group (16–24 vs. 25–35-  
57 year-olds) and the GFC. Results (available from the second author) showed no significant interactions.  
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## Results

### Effects of the GFC on Young People's Value Priorities

Table 2 present results from our longitudinal multilevel analysis models focusing on the GFC dummy variable as a predictor of change in personal values. Note that all FE models presented in Table 2 control for age, gender, and years of education and contain fixed effects for country and ESS round (or, in the RE specification, a random intercept). As can be seen, the global financial crisis had a statistically significant effect in the FE (Table 2) and RE models (Table S2) on all but universalism and only marginally for conformity values in the base model (M1). In line with Hypothesis 1, security, tradition and, to a lesser extent, conformity values increased after the GFC. Achievement and power decreased significantly in the fixed effect model, but these effects were not significant in the random effects model, so are not interpreted. In contrast, hedonism, self-direction, stimulation, but not universalism decreased after the GFC, partially supporting Hypotheses 2. The largest effect was the increase in benevolence with an effect size of .245 (coefficient expressed in Cohen's  $d$ ), supporting Hypothesis 3.

Table 2

*Main Effects Models for Effect of the Global Financial Crisis with Country Fixed Effects.*

Value	Base Model			Controlling for Covariates		
	$D$	95% CIs	$P$	$D$	95% CIs	p-value
Achievement	-.056	-.088, -.023	.001	-.047	-.085, -.01	.014
Power	-.060	-.093, -.026	>.001	-.014	-.053, .025	.484
Security	.057	.025, .088	>.001	.065	.028, .102	.001
Conformity	.030	-.003, .063	.077	.050	.011, .088	.012
Tradition	.080	.048, .113	>.001	.052	.014, .091	.008
Benevolence	.245	.213, .278	>.001	.225	.188, .263	>.001

## VALUE CHANGE DURING THE GLOBAL FINANCIAL CRISIS

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Universalism	-.001	-.034, .032	.945	.007	-.032, .046	.726
Self-Direction	-.100	-.133, -.067	>.001	-.091	-.129, -.052	>.001
Stimulation	-.064	-.097, -.032	>.001	-.095	-.134, -.057	>.001
Hedonism	-.079	-.110, -.047	>.001	-.101	-.138, -.064	>.001

*Notes.* The effects of GFC are expressed in Cohen's *d* units (i.e. standard deviation units). Standard errors are in brackets. The base models (M1) control for years of education, age, and the dummy variables for country and ess round. The covariate models (M2) add controls for individual employment status, country unemployment rate, subjective income, and country level social expenditure.

The GFC effects remained almost unchanged and statistically significant even after controlling for individual employment status, subjective income, country unemployment rate, and social expenditure (Table 2, M2).

### The Moderating Role of the Welfare State

In the next set of models, we considered possible moderation of GFC effects on values by country investment in welfare. For this purpose, we extended model M2 of Table 2 by adding interactions of GFC dummies with yearly social expenditure (for each country per wave).

Table 3 provides both estimates of these interactions and, using the derived estimates and the delta method, the simple slopes for low social expenditure (2 *SD* below average across countries and time), average expenditure, and high expenditure (2 *SD* above average). Figure 1 plots these results.

Table 3

*Effect of the Global Financial Crisis Moderated by Social Expenditure with Country Fixed Effects.*

	Interaction Effect			Low Social Expenditure		Average Social Expenditure		High Social Expenditure	
	<i>D</i>	95% CI	<i>P</i>	<i>D</i>	95% CI	<i>D</i>	95% CI	<i>D</i>	95% CI
Achievement	-.035	-.056, -.013	.001	.014	-.038, .066	-.056	-.094, -.018	-.125	-.187, -.064
Power	-.057	-.078, -.036	>.001	.086	.032, .140	-.028	-.067, .011	-.142	-.203, -.082
Security	-.003	-.025, .018	.749	--	--	--	--	--	--

## VALUE CHANGE DURING THE GLOBAL FINANCIAL CRISIS

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Conformity	-.011	-.032, .01	.320	--	--	--	--	--	--
Tradition	.035	.013, .056	.002	-.008	-.062, .045	.061	.022, .100	.131	.068, .194
Benevolence	.042	.021, .062	>.001	.153	.101, .205	.236	.198, .274	.319	.259, .380
Universalism	.038	.017, .059	>.001	-.060	-.112, -.007	.016	-.023, .056	.093	.030, .156
Self-Direction	.026	.004, .048	.022	-.136	-.19, -.082	-.084	-.123, -.045	-.032	-.096, .031
Stimulation	-.002	-.023, .019	.851	--	--	--	--	--	--
Hedonism	-.019	-.039, .001	.061	--	--	--	--	--	--

*Notes.* -- Simple effects are not estimated for variables if the interaction effect is not significant. Interaction effects are expressed in Cohen's *d* units (i.e. standard deviation units). Models controls for gender, age, individual employment status, country unemployment rate, individual subjective income, country average subjective income, country, and ESS round.

Hypothesis 4 predicted smaller changes in values in countries with higher welfare investment. Significant interaction effects between GFC and countries' social expenditure emerged for achievement, power, tradition, benevolence, self-direction, and universalism values (Table 3, Figure 1). Power values tended to increase in low welfare countries, and power and achievement values tended to decrease in high welfare countries. Self-direction values decreased more in low than in high welfare countries. Universalism tended to decrease in low welfare countries but to increase in high welfare countries. Tradition and benevolence values increased across countries, and this increase was larger when welfare was high. Note that the interactions for power and benevolence values were significant only in the fixed effect model. The universalism interaction was marginally significant in the random effects model (S3).



## VALUE CHANGE DURING THE GLOBAL FINANCIAL CRISIS

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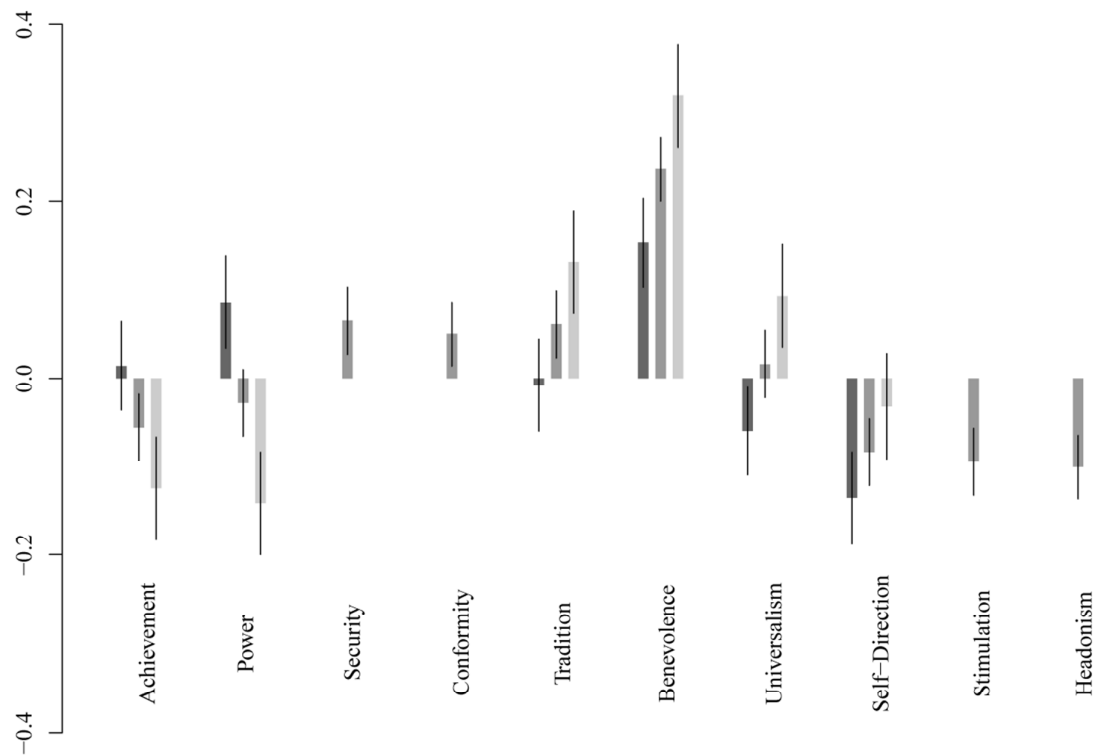


Figure 1. Effect of the GFC on values moderated by social expenditure. Black lines represent point estimates. When there is a significant moderation effect, three estimates are given which are, from left to right, dark grey = -2 SD below the mean, grey = mean, and light grey = 2 SD above the mean on social expenditure. Black lines represent 95% confidence intervals.

The results for power, achievement, self-direction, and universalism partly supported Hypothesis 4, stating that welfare investment buffered the impact of the GFC on values. Specifically, higher welfare investment mitigated the increase in power and achievement values and the decrease in universalism and self-direction values. However, results for the other six values did not support the buffering hypothesis. Conformity and security increased, and stimulation and hedonism values declined to a similar degree across countries, regardless of social welfare investment. Contrary to our moderation hypothesis, the increases in benevolence and tradition values were larger rather than smaller in high welfare countries.

The mean plots per year from 2002 until 2014 (Figure 2) show the differences in value change between high and low welfare investment countries.

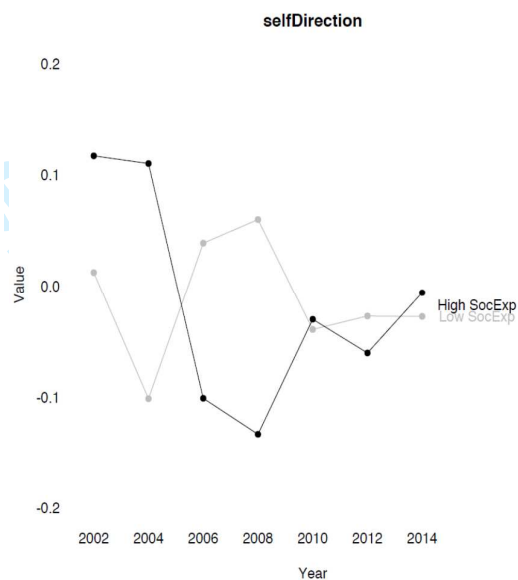
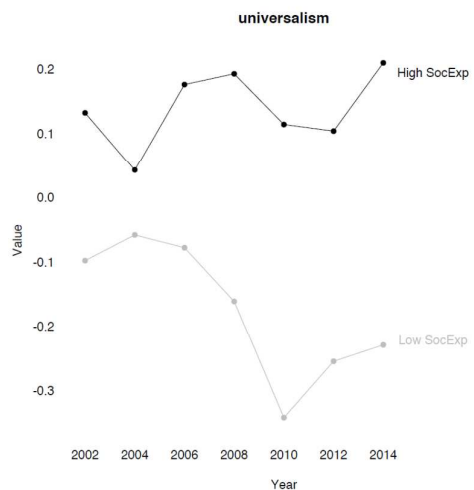
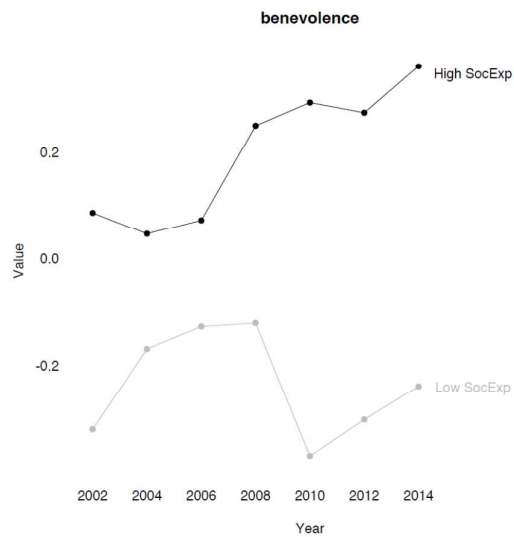
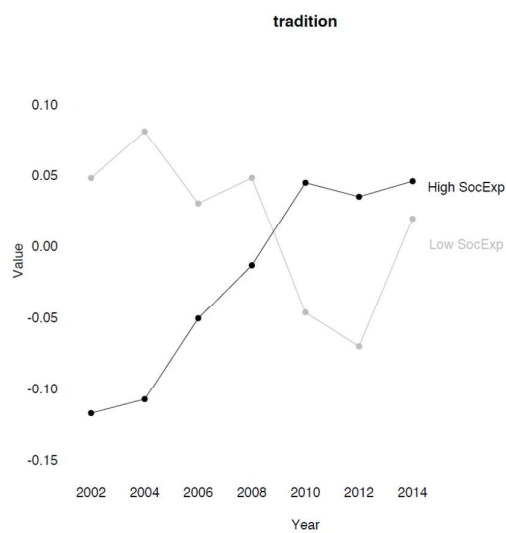
VALUE CHANGE DURING THE GLOBAL FINANCIAL CRISIS

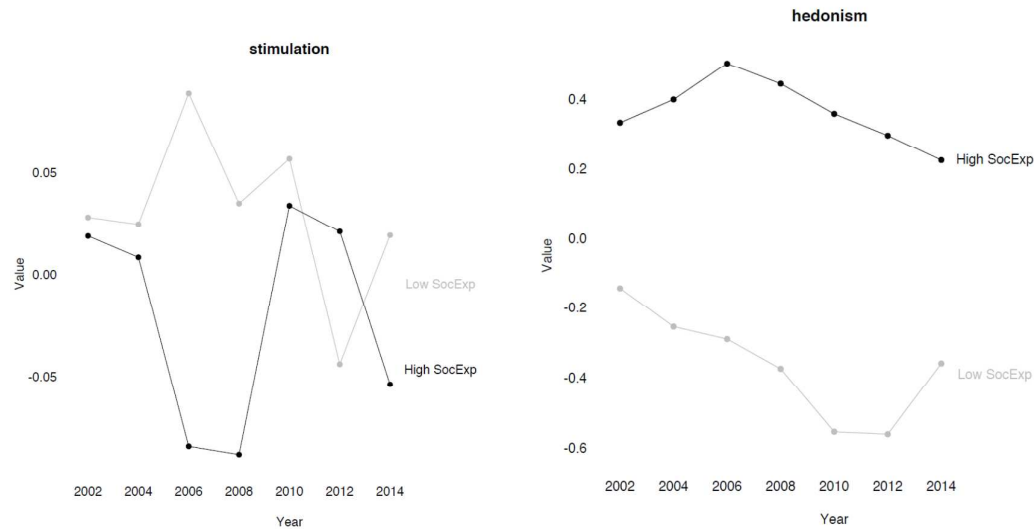
Figure 2.

Values' z-scores for countries high and low on social expenditure by year.



VALUE CHANGE DURING THE GLOBAL FINANCIAL CRISIS





## Discussion

This study examined cohort differences in youth's personal values in the wake of the GFC, a major economic threat that infused the lives of young Europeans with substantial uncertainty and insecurity (Danziger & Ratner, 2010; Scarpetta et al., 2010). Analyses of representative national cohorts of European youth and young adults from six biennial ESS waves (2002–2014) revealed that (1) the GFC led to shifts in youth's values and that (2) the welfare state (i.e., national levels of social expenditures) partly moderated the effects of the GFC on values. However, the moderation effects were more complex than expected. The GFC effects were significant even after controlling for period effects (ESS wave), and a host of individual and country level economic indicators.

First, our analyses revealed that values that express self-protection/anxiety-control motivations (security, tradition, and, to a lesser extent, conformity) increased in importance after the onset of the GFC, whereas values that express growth/self-expansion motivations (hedonism, self-direction, and stimulation) decreased. As anticipated, benevolence, which focuses on in-group solidarity and the well-being of close others, increased after the GFC. This pattern of value changes follows the circular value structure proposed by the Schwartz

theory and is in line with our expectations that the GFC would trigger uncertainty and a perceived existential threat (Inglehart & Baker, 2000).

Second, our analyses pointed to an important role of the welfare state as a moderator of the effects of the GFC on young people's values, although this role was more complex than we envisioned. We initially reasoned that the welfare state would counteract the uncertainty created by the GFC by bolstering perceived existential security, thereby buffering its effects on values. Results showed that power and, to a lesser extent, achievement and conformity values tended to gain importance only where welfare investment was low. Indeed, these values tended to decrease in importance where welfare investment was high. Welfare state investment did not moderate the change in security values; it was insufficient to prevent a rise in the importance of security values, the values most directly related to a sense of uncertainty/insecurity.

Contrary to our moderation hypothesis, the decline in young people's openness to change values (hedonism, self-direction, and stimulation) post-GFC occurred largely irrespective of welfare investments. In retrospect, this lack of moderation may make sense. At times of economic crisis, the very continuity of welfare investments is threatened. This may undermine the expectations of future opportunity and growth that promote openness to change values.

Universalism values tended to decline in countries with low welfare investment but increased slightly in countries with high investments. This provides some support for the idea that welfare investments sustain universalism values during times of crisis. Contrary to expectations, tradition and benevolence values increased even more strongly in high investment than in low investment countries, even though both these values concern the in-group. We expected that less state support would have a stronger impact in fostering increased reliance on, concern for, and commitment to traditions and close others. Perhaps,

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2  
3 however, the presence of state support provides individuals with more effective resources to  
4  
5 devote themselves successfully to protecting solidarity and the interests of close others.  
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7 Overall the increases in benevolence and tradition provide evidence of raising  
8  
9 communitarianism similar to that reported in the US after the economic crisis (Park et al.,  
10  
11 2014; 2017).  
12

13  
14 We assumed that the GFC was a period characterized by feelings of insecurity and  
15  
16 uncertainty that are widely shared across Europe even in countries that were less severely  
17  
18 affected by the crisis according to objective data (e.g., Poland, Germany). Additional  
19  
20 analyses demonstrated that the GFC effects on values could not be explained by purely  
21  
22 economic factors, including country-level unemployment rates (an objective indicator), and  
23  
24 subjective income. Although no definitive proof, this is in line with our assumption that the  
25  
26 sense of uncertainty that characterized this period shifted values in a predictable way based  
27  
28 on the Schwartz theory.  
29  
30

### 31 32 **Implications for Future Research and Limitations** 33

34 Past research that examined only the higher order values and included the entire age  
35  
36 range in ESS samples revealed little change in personal values (Tormos et al., 2017). The  
37  
38 current study uncovered greater change by (a) studying young people, whose values are  
39  
40 theoretically more malleable, and (b) by studying the ten single values. Examining only  
41  
42 higher order values may miss some changes because it combines single values (e.g.,  
43  
44 benevolence and universalism) that may change in different directions.  
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47 The effects of economic crises are not distributed evenly across populations; some  
48  
49 groups are more affected than others. In the US economic crisis starting 2008, for example,  
50  
51 younger, less educated, and minority workers were more likely to lose their jobs (Hout,  
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53 Levanon, & Cumberworth 2011). Further research is needed to identify individual  
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3 characteristics that may buffer or accentuate the impact of economic crises on value change  
4  
5 in young people.  
6

7  
8 The observed effects of the GFC seem to have dissipated over time for some values in  
9  
10 our study (Figure 2). In low welfare countries, power, achievement, and conformity values  
11  
12 rose sharply immediately after the crisis but bounced back subsequently. For universalism,  
13  
14 benevolence, tradition and security values, however, effects of GFC seem long-lasting.  
15  
16 Further research with data from later rounds of the ESS could assess how persistent the  
17  
18 effects of the GFC on values are. However, in the European context, new threats (e.g.,  
19  
20 terrorism and mass immigration) may impact values.  
21  
22

23 We note three limitations of the current research First, our analyses used TSCS data  
24  
25 from the ESS, comparing the personal values of cohorts of youth before and after the GFC.  
26  
27 Studies using individual-level panel data from multiple countries could test our hypotheses  
28  
29 more rigorously. Unfortunately, such multi-national individual-level panel data are not  
30  
31 available.  
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34 Second, all observed effects were small on average. However, they were not  
35  
36 negligible, given the high stability of values. Third, because we studied relatively few  
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38 countries, our results should be interpreted with caution, particularly with regard to the  
39  
40 moderating effects of the welfare state.  
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### 43 **Conclusion**

44  
45 The overall findings suggest that the GFC induced change in the values of recent  
46  
47 cohorts of young Europeans. Their priorities shifted toward self-protection values,  
48  
49 particularly, security, tradition, and, to a lesser extent, conformity and shifted away from  
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51 growth/self-expansion motivations, particularly hedonism, self-direction, and stimulation.  
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53 Findings also suggested that countries' welfare investment may moderate the degree and  
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55 direction of change for some values. Thus, the extent of welfare investment provided a  
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context for recent cohorts of young people to transit through the difficulties caused by the GFC.

For Peer Review



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## Supplementary Online Material

Table S1

*Sample Size by Country and ESS round.*

Country		ESS Round						
		1	2	3	4	5	6	7
Belgium	BE	559	553	505	496	489	514	494
Switzerland	CH	517	599	411	479	374	414	429
Germany	DE	715	688	699	606	744	704	687
Denmark	DK	441	392	352	363	361	397	378
Spain	ES	461	532	599	803	614	513	511
Finland	FI	481	458	436	497	437	534	471
France	FR	452	442	533	526	421	419	475
Great Britain	GB	500	521	591	581	587	498	476
Hungary	HU	479	417	352	442	446	556	361
Ireland	IE	592	291	460	520	749	766	604
Netherlands	NL	597	450	484	404	384	391	409
Norway	NO	562	439	431	399	445	449	377
Poland	PL	685	600	561	535	587	606	474
Portugal	PT	392	587	523	514	414	469	255
Sweden	SE	477	463	430	406	387	504	476
Slovenia	SI	470	400	391	369	370	312	289

Table S2

*Main Effect Models for Effect of Great Recession with Country Random Effects.*

	M1	M2	M3	M4	M5
	Base Model	Control for Employment status	Control for Unemployment Rate	Control for Subjective Income <sup>1</sup>	Control for Social Expenditure
Achievement	.003(.015)	.005(.016)	.009(.017)	.009(.017)	.034(.021)
Power	-.030(.024)	-.030(.024)	.014(.026)	-.007(.024)	.011(.027)
Security	.075(.017)***	.076(.017)***	.063(.019)**	.065(.020)**	.098(.024)***
Conformity	-.003(.017)	-.002(.017)	-.002(.019)	.007(.018)	.002(.023)
Tradition	.034(.012)**	.035(.012)**	.035(.013)**	.032(.013)*	.013(.015)
Benevolence	.110(.021)***	.112(.021)***	.131(.023)***	.118(.023)***	.083 (.028)**
Universalism	-.034(.018)^	-.035(.019)^	-.033(.021)	-.037(.020)	-.041(.025)^
Self-Direction	-.047(.016)**	-.052(.018)**	-.049(.017)**	-.046(.017)**	-.042(.019)*
Stimulation	-.026(.013)*	-.029(.012)*	-.042(.015)**	-.040(.012)**	-.046(.015)**
Hedonism	-.054(.016)**	-.055(.016)**	-.062(.018)***	-.071(.016)***	-.082(.021)***

*Notes.* \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$ . Standard errors are in brackets. All models control for years of education, age, and dummy variables for country and ess round. <sup>1</sup>At individual and aggregated to year by country level.

Table S3

*Effect of the Global Recession on Value Priorities Moderated by Social Expenditures with Country Random Effects*

	Interaction Effect	Low Social Expenditure	Average Social Expenditure	High Social Expenditure
Achievement	-.031(.018)^	.093 (.040)	.032 (.021)	-.030 (.042)
Power	-.062(.024)*	.135 (.055)	.011 (.027)	-.113 (.055)
Security	.010(.021)	--	--	--
Conformity	-.018(.019)	--	--	--
Tradition	.036(.013)*	-.052 (.029)	.015 (.015)	.082 (.030)
Benevolence	.025(.024)	.034 (.054)	.085 (.028)	.135 (.056)
Universalism	.038(.021)^	-.116 (.048)	-.040 (.024)	.037 (.050)
Self-Direction	.020(.017)	-.082 (.039)	-.042 (.019)	-.001 (.040)
Stimulation	.004(.013)	--	--	--
Hedonism	-.019(.017)	--	--	--

*Notes.* -- Simple effects are not estimated for variables where the interaction effect is not significant. \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$ , ^  $p > .05$ . Standard errors are in brackets. Model controls for gender, age, individual employment status, country unemployment rate, individual subjective income, and country average subjective income. Effects in grey are for those interactions that were significant in fixed effects models but not in the random effects models.



Table S4

*Social Expenditures as a Percentage of GDP.*

Country		ESS Round						
		1	2	3	4	5	6	7
Belgium	BE	24.35	25.29	25.15	26.3	28.3	29.02	29.17
Switzerland	CH	17.95	18.9	17.93	17.48	18.43	18.78	19.27
Germany	DE	26.06	25.95	25.04	24.22	25.92	24.56	24.85
Denmark	DK	24.8	25.13	24.95	25.38	28.94	28.91	29
Spain	ES	19.34	2.14	2.43	22.19	25.84	26.1	26.07
Finland	FI	23.19	23.96	23.75	23.34	27.42	28.39	3.18
France	FR	28.13	28.68	28.13	28.2	3.66	31.03	31.94
Great Britain	GB	18.58	19.5	19.24	2.88	22.79	22.5	21.58
Hungary	HU	20.83	21.04	22.18	22.65	23.04	22.5	21.37
Ireland	IE	14.19	14.89	15.01	18.49	22.39	20.97	19.16
Netherlands	NL	19.22	19.89	20.15	19.59	22.09	22.51	22.66
Norway	NO	22.72	22.3	19.49	19.15	21.92	21.34	22.45
Poland	PL	22.04	21.24	2.58	2.23	2.63	19.03	19.49
Portugal	PT	20.32	21.69	22.06	22.22	24.48	24.53	24.52
Sweden	SE	27.55	27.7	26.64	25.57	26.27	26.7	27.14
Slovenia	SI	22.25	21.52	21.07	19.87	23.4	23.6	23.08