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in Germany during Times of Crisis**

**Adrian Chadi**

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Institute for Labour Law and Industrial Relations in the  
European Union (IAAEU)  
54286 Trier  
[www.iaaeu.de](http://www.iaaeu.de)

# *Concerns about the Euro and Happiness in Germany during Times of Crisis*

Adrian Chadi

IAAEU - University Trier

Institute for Labour Law and Industrial Relations in the European Union (IAAEU)

D – 54286 Trier, Germany

Tel: +49 651 201 4774, Fax: +49 651 201 4742, E-mail: chadi(at)iaaeu.de

## **Abstract:**

This empirical study investigates if people's concerns about the euro currency affect their life satisfaction. A minority of very concerned individuals appear to be unhappy, which cannot be explained by personality or other observable factors typically affecting well-being. As a novelty, this investigation exploits exogenous variation in reported concerns by using the intensity of media coverage on the euro crisis with its extraordinary events throughout the year 2011 as an instrument. Results from the application of several empirical approaches confirm that there is an effect from being concerned about the euro on people's satisfaction with life. The first potential explanation is that perceived economic insecurity works as a transmission channel, but this is not fully supported by the empirical evidence. A second explanation suggests that political beliefs and euro-skeptic attitudes are at play and may trigger unhappiness as a consequence of a perceived lack of representation in German politics. In line with this argument, a regional analysis links the variation in unhappiness among concerned citizens to the actual votes for Germany's first major anti-euro party in the subsequent federal elections.

## **JEL Classification Codes:**

D72, H11, I31

## **Keywords:**

Life satisfaction, euro crisis, currency, concerns, political protest, sensitive information, media coverage, instrumental variable, SOEP

## I. INTRODUCTION

The news headlines of 2011 offer a paradoxical picture of the situation in Germany. In the aftermath of the severe banking crisis with its economic repercussions, the country was economically in good condition and happiness appeared to be widespread among the citizenry. Meanwhile, the dominant topic of the year was the “concerns about the euro” (in German “Sorgen um den Euro”), as an ongoing currency crisis was omnipresent in the media.<sup>1</sup> Despite thousands of people voicing their concerns in protests in other European countries during times of economic turmoil, for most Germans the potential problems with their currency were not immediate problems. On closer inspection, however, there were indications, such as the rising anti-euro sentiment that started to evolve into a political movement during that time, suggesting that the currency situation actually mattered, at least to some particularly concerned people.

This paper questions the narrative of the happy Germans during times of crisis by investigating whether being concerned about their currency has the potential to trigger non-monetary costs, measured in reduced life satisfaction. A second contribution is the discussion of the potential ways through which people may see their well-being affected and consequently may even reconsider their political views. By doing so, this study contributes to the economic discussion of both the euro itself and its first major crisis, while it also sheds light on the rise of a political movement. If concerns about the currency are capable of affecting people’s life satisfaction in significant ways, a political response and an increase in willingness to protest are potential consequences, even if those who are affected constitute only a minority in a population that is overall passing happily through one of the most outstanding currency crises in recent times.

Apart from examples, such as the federal government’s takeover of financial obligations to bolster the supranational currency, the euro crisis had little economic impact on the country of Germany. Instead, economic figures were very positive in Europe’s largest economy, especially when compared to the situation in the southern euro countries.<sup>2</sup> For Germans, the euro crisis of 2011 was an experience that clearly differed from financial crises with a discernable economic impact. In this context, recent empirical studies reveal non-monetary effects in happiness resulting from the unemployment and income shocks during the financial crisis of 2008/2009

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<sup>1</sup> The title of a December 2011 press release by the University of Hohenheim was: “The concern about the euro is the top issue of the year 2011”. Based on their representative survey among people in Germany, researchers concluded that the euro crisis received more attention than events like Fukushima or the Arab Spring. For additional background information, see Appendix B for a selection of media reports from that year.

<sup>2</sup> Germany had a growth rate of 3.3% in 2011, only slightly lower than the 4.0% growth rate a year earlier, according to official World Bank data. These strong increases in GDP could offset the contraction of the German economy in 2009 due to the banking crisis. Meanwhile, Italy and Spain had almost no growth in 2011; Portugal and Greece had negative growth rates. Unemployment increased in all these Mediterranean countries and reached levels going even beyond the high figures during the banking crisis. Contrariwise, unemployment in Germany continued to fall in 2011. The unemployment rate of 5.9% was the lowest for the country in 20 years.

(Deaton 2012) and show how the happiness of Europeans responds to recent banking crises (Montagnoli and Moro 2014). Arguably, the absence of substantial changes in objective living standards for the people of Germany during the euro currency crisis motivates the analysis of subjective well-being data even more. Non-monetary indicators allow examining the role of concerns about a currency that is linked to severe problems in the media but not necessarily in the daily experiences of people in times of economic abundance.<sup>3</sup>

Previous research on subjective well-being suggests that concerns about one's own economic situation have the potential to substantially affect people (e.g., Knabe and Rätzl 2011). Broader social problems may also be relevant but they play a different role than concerns about issues that are directly related to oneself. Whereas people may report being concerned about topics like crime or immigration, their life satisfaction is not necessarily affected by such global issues. As a rare example, Ferrer-i-Carbonell and Gowdy (2007) provide evidence for effects to well-being over concerns about an environmental issue. To illustrate the economic importance, studies in this field often provide a transformation of non-monetary effects into equivalent monetary figures (e.g., Carroll et al. 2009; Luechinger 2009; Luechinger and Raschky 2009; Kountouris and Remoundou 2011).<sup>4</sup> While the study here is also motivated by the idea that subjective well-being is generally translatable and measurable in economic terms, the prime motivation comes from a different and more political viewpoint.

Election outcomes after 2011 suggest that skepticism toward the euro currency and views about its economic role have been capable of inducing significant changes in the political landscape throughout Europe, even in the absence of substantial changes in objective economic data for a country like Germany. For sure, from a policy perspective, it is relatively unimportant whether citizens are unhappy and revolt against European institutions because of a *de facto* economic disadvantage or solely because of a *perceived* economic disadvantage, even if such perception is subjective and not necessarily based on economic fact. Leaving the discussion of the latter to other scholars interested in researching the euro crisis, this study attempts to analyze subjective concerns about the euro currency and the effects on well-being in order to enhance the understanding of a political development.

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<sup>3</sup> For comprehensive discussions of both the potential and the validity of data on subjective well-being, see Frey and Stutzer (2002), Frey (2008) and Weimann et al. (2015). Many of the findings in this growing field, such as the negative impact of being unemployed (e.g., Clark and Oswald 1994) or the importance of both absolute and relative income (e.g., D'Ambrosio and Frick 2012) are consistent over different data sets and across different countries. Note that in line with many other studies in this field, the discussion here treats the terms *happiness*, *life satisfaction* and (*subjective*) *well-being* interchangeably.

<sup>4</sup> While such transformation of well-being effects into income effects gives the reader helpful information, especially in the context of environmental problems, the exact calculation of the monetary equivalent is not trivial. See, e.g., Oswald and Powdthavee (2008), Powdthavee (2010) and Frijters et al. (2011) about the challenge to identify the effect of income on well-being.

Historically, anti-euro views have been prevalent in the German public since the start of the discussion about the currency's implementation; yet, this political position has never received much support from German elites in politics, media, business, or science. With respect to the latter, a significant change occurred during the euro crisis as several professors of economics from German universities emerged to be the most prominent voices expressing concerns about policies regarding the euro. The protest was aimed against the idea of bolstering the supranational currency via bailout programs for countries like Greece or Portugal, expecting possible wealth losses for the German people. As those views still had no significant representation in Germany's political spectrum, it was, in particular, some of those seemingly concerned economists who became politically active by being directly or indirectly involved in the founding of a party called the *AfD* (*Alternative für Deutschland*).<sup>5</sup> The origin and unifying position of this political opposition is a straightforward anti-euro attitude, accompanied by the proposal to discuss re-introducing the German deutschmark (DM). The new party soon outperformed the long-term government party of the liberal democrats in election polls and almost entered the German *Bundestag* in the 2013 federal elections with the support of more than two million voters.<sup>6</sup>

Whereas anti-euro sentiment is prevalent in the political spectrum of many European countries, there has been little research on the motivation of people to be involved politically in such protest. In particular, the idea to use subjective well-being data to investigate people's unhappiness coming from concerns about a specific economic topic as a driver of political behavior is new. Apart from the happiness studies on other subjectively perceived concerns, there is some research about how the currency of the euro itself affects people in their well-being. Yet, the evidence is limited to the euro changeover of 2002, for which Wunder et al. (2008) reveal a significant loss in well-being resulting from the implementation of the currency. As a more technical consequence of the euro crisis, the German Socio-Economic Panel (SOEP) study, which is Europe's leading household survey, re-incorporated the question on whether people are concerned about the euro years after it was part of the questionnaire during the changeover. The present paper is the first to exploit this opportunity for research by investigating the impact of perceived concerns about the euro based on data from before and during the crisis.

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<sup>5</sup>While the party had its origins in the euro crisis, it was officially founded in 2013. See the *AfD* federal elections program (2013) for the political positions regarding economic issues and the topic of currency in particular.

<sup>6</sup>The final *AfD* vote of 4.7% was slightly below the threshold of 5% needed to win seats in Germany's main legislative body, showing that the party was elected only by a minority of German voters in 2013. Note that the country's total population is approximately 80 million people of which approximately 62 million adults are at least 18 years of age and are eligible to vote in federal elections.

Following the description of data and empirical strategy (Section II), the first part of the empirical analysis (Section III) employs identification strategies used in previous happiness studies about the impact of subjectively perceived concerns. Results suggest strong negative effects in well-being from being concerned about the euro, which is remarkable as concerns about broader social topics are typically not found to affect people's satisfaction with life. The richness of the SOEP data allows considering not only standard determinants of happiness but also controlling for differences in personality via data on the *Big Five* traits and indirectly via exploitation of the panel structure. The second part of the analysis (Section IV) constitutes a novelty in the context of research on people's worries and their well-being by making use of media data for the identification strategy. An instrumental variable (IV) approach follows recent studies that exploit the quasi-randomness of the interview date as the basis of exogenous variation in the variable of interest. Yet, in contrast to the event-focused studies of, e.g., Kimball et al. (2006), Metcalfe, Powdthavee and Dolan (2011), Schueller (2012) or Goebel et al. (2013), the present study does not investigate a historical event for its own sake but exploits it as an instrument. Because interviewers and interviewees do not arrange their interview date in anticipation of political events, it is safe to assume that respondents are randomly affected in their level of concern by the political development and its media coverage. The discussion of results (Section V) concludes that concerns about the euro affect the well-being of people. As a final step, an analysis based on regional data links the unhappiness of the concerned citizens to the federal election results of Germany's first major anti-euro party two years later. The finding of a strong link supports the conclusion (Section VI) that data on subjective well-being does not only contain information about non-monetary implications of economic developments but also has the potential to predict concrete and objectively relevant outcomes, such as election results.

## II. EMPIRICAL FRAMEWORK

### *II.A. Data*

The German SOEP study is a broad and representative survey that provides data from thousands of annual interviews (Wagner, Frick and Schupp 2007). It is one of the largest and longest running panels in the world and is known for being very comprehensive in terms of available information on its participants. Fieldwork starts at the beginning of each year and is carried out on all days of the week. The majority of interviews are conducted between late winter and early summer. The data are obtained through different survey modes, including personal interviews that are conducted by interviewers in face-to-face situations and questionnaires that the participants fill out while the interviewer is constantly or partially present in the room. The

questionnaire can also be filled out without assistance by an interviewer, which can happen when a household member is not at home during the interviewer's visit or when contact between the data collecting agency and a respondent is generally only via mail. Despite the effort to tackle panel attrition through a multi-faceted survey design, some participants over the years exit the panel. Thus, from time to time, the data collectors invite new samples of people to participate in the survey, allowing annual participation numbers to remain at high levels.

To measure subjective well-being, happiness researchers typically exploit the life satisfaction question in the SOEP and interpret this variable as a proxy for utility.<sup>7</sup> Other satisfaction indicators are available for different life domains, such as satisfaction with dwelling. Only seldom used as an outcome variable in research so far but included in some of the SOEP waves is a question on the participants' expected level of life satisfaction in the future (see, e.g., Frijters et al. 2009). In all these cases of variables on people's satisfaction levels, interviewees have to assess their respective situation on a scale ranging from 0 ("completely dissatisfied") to 10 ("completely satisfied"). The exact wording of the paper's main outcome variable on people's general level of life satisfaction is: "How satisfied are you with your life, all things considered?" The suspected determinant of well-being and key variable of interest here is the people's concerns about the euro currency. This question is not part of the standard topics that are observed annually in the SOEP regarding what might be of concern to the German people. This question block starts with: "What is your attitude towards the following areas – are you concerned about them?" The questionnaire provides three categories: "Very concerned"/ "Somewhat concerned" / "Not concerned at all". The list includes topics of a general social kind (e.g., crime, environmental protection, general economic development) as well as private issues (e.g., own economic situation) and is occasionally modified from one year to the next by the survey designers. Most importantly, respondents were asked at the time of euro implementation about whether they have concerns with respect to the "Introduction of the Euro in place of the D-Mark." This allowed analyses on the new currency when it was first implemented (e.g., Isengard and Schneider 2007). Faced with the economic turmoil in Greece, the survey organizers put this item back onto the list, using the same wording as before to facilitate comparison of responses and longitudinal analyses.<sup>8</sup>

Following previous investigations in the context of concerns and well-being (see, e.g., Goebel et al. 2013), binary variables allow for a reasonable distinction between people who are very

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<sup>7</sup> The survey "Well-Being and Happiness - A Compilation of SOEP Based Articles" on the SOEP webpage sheds some light on the large amount of research based on this variable.

<sup>8</sup> Probably as a result of these considerations, new SOEP interviewees of an additional 2011 refreshment sample were not confronted with this question in their version of that year's questionnaire. Thus, the analysis takes place based on data from samples that started earlier.

concerned about a topic, as the highest category, and the somewhat concerned/no concern categories. This makes sense because only strong concerns are expected to matter for people's life satisfaction. Previous studies have analyzed well-being effects of tragic events, such as nuclear disasters, and mostly found no effect in life satisfaction levels, but instead in the people's worries about the specific topic, such as environmental concerns (e.g., Berger 2010). This underlines that happiness is generally quite stable and even remarkable tragedies do not necessarily change people's satisfaction with their lives, despite outstanding media coverage. The SOEP offers a broad set of data about people's socio-demographic background, economic aspects, recent life events, and much more. Information on objective health problems can also be included in the analysis. Furthermore, the SOEP wave of 2009 provides data on people's personality traits in the form of the *Big Five* concept. This allows considering personality in a comprehensive way via the traits extraversion, agreeableness, conscientiousness, neuroticism, and openness (McCrae and Costa 1987). By assuming stability in traits, data on these five factors can be transferred to the data from the 2011 wave.<sup>9</sup> Summary statistics for the main data set based on the 2011 wave are given in Appendix Table A.I.

### *II.B. Empirical strategy*

An intensely discussed issue in happiness research is the role of people's personality, which Ferrer-i-Carbonell and Gowdy (2007) consider to be the key factor in the context of concerns and well-being. As given individual traits are likely to determine both happiness and the probability of being concerned, the authors are confident to address potential identification concerns by exploiting available proxies for personality in their British survey data. The SOEP data allow tackling this issue similarly by means of observable information that promises to measure traits in a direct way. Following these considerations, the first empirical approach constitutes a cross-sectional regression analysis that exploits the richness of the data by considering both personality via the *Big Five* measures and a large number of the observable determinants of well-being. Many of those are also expected to be related to whether people are concerned about the euro or not. For instance, the literature suggests that higher education goes along with a more positive view on the topic of the euro (e.g., Routh and Burgoyne 1998). In consequence, the first empirical model for the analysis of the main data sample of 2011 (see Appendix Table A.I) includes people's concerns, a set of personality measures, and a large array of control variables ( $X$ ) reflecting the background of the people and also the survey

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<sup>9</sup> The five traits are measured via three statements. Respondents assess how much each statement applies to themselves on a seven-point scale. The mean of the three answers gives a trait's manifestation. Binary indicators, which reflect strong and low manifestations of each personality trait, are generated and used in the analysis.

situation, which is an important factor discussed in more detail below. This gives the following model to analyze the determinants of people's subjective well-being:

$$(1) \quad SWB = \beta \text{Concerns} + X' \gamma + \text{Personality}' \eta + \varepsilon$$

Instead of solely relying on the 2011 data, the re-incorporation of exactly the same question from the time of the euro changeover allows establishing a panel setting and applying another approach that is commonly used in happiness research. In this case, fixed personality traits are dealt with indirectly by considering an individual fixed effect ( $\mu$ ) in a longitudinal analysis. Also a time effect ( $\tau$ ) is included in this second empirical model as follows:

$$(2) \quad SWB = \beta \text{Concerns} + X' \gamma + \tau + \mu + \varepsilon$$

The last SOEP wave from the time of the changeover that included the key question on concerns about the euro currency is from 2003. Combining the data with those of 2011 is linked to a loss of observations because the condition for each person to be included in this longitudinal sample is to be observed over a long period. Note that for the sake of representativeness, survey-weighting factors are routinely included in all analyses to align demographics in the data (cross-sectional and longitudinal) with the population. Another technical issue is the question of which method to use when being confronted with ordinal data. The analysis here follows most of the studies in happiness research and employs linear regressions.<sup>10</sup>

Both of the standard approaches reflected in models (1) and (2) rely on assumptions that previous research in the field routinely made. The first model requires the comprehensive observation of all relevant influencing factors in the relationship between well-being and concerns about the euro in order to identify causal effects. The second model requires observing all time-varying factors, as otherwise the effect would not necessarily be identified in an accurate way. These are strong assumptions that motivate the introduction of a third empirical model. The idea behind the following approach is to use the euro crisis to establish a valid and relevant instrument for people's concerns about the euro currency. Specifically, the intensity of recent media coverage about the crisis on a given (interview) date is the exogenous factor in the first stage of the IV design, leading to the following model:

$$(3a) \quad \text{Concerns} = \theta \text{Crisis} + X' \gamma_1 + v$$

$$(3b) \quad SWB = \beta \widehat{\text{Concerns}} + X' \gamma_2 + \varepsilon$$

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<sup>10</sup> Researchers commonly refer to the general discussion in Angrist and Pischke (2008) or to the field-specific contribution on methodology in happiness research by Ferrer-i-Carbonell and Frijters (2004).

### *II.C. Using the euro crisis as an instrument*

Since the people in Germany receive information about political and economic developments primarily through the media, the idea is to measure the intensity of the crisis as the exogenous source of variation by the quantity of media reports about this topic as an objective indicator. As for other media-based analyses (see, e.g., Groseclose and Milyo 2005; Lamla and Lein 2015), the collection of media data takes place via *LexisNexis*, which serves as a suitable and comprehensive aggregator of news reports.<sup>11</sup> Running its search engine with the term *euro crisis* for every day of the year 2011, *LexisNexis* computes the number of media reports that contain this particular word.<sup>12</sup> The aggregated number of reports represents an objective reflection of the varying intensity of the euro crisis. These figures serving as a crisis indicator are then merged with the SOEP data on the basis of the exact interview dates.

The actual numbers of media reports containing the term *euro crisis* vary from just three on February 27, to several hundred. The primary reason for this variation is the occurrence of several outstanding events that took place throughout the year. A prominent example is the case of the Portugal bailout. This type of political development can be expected to trigger reactions in the concerns among the citizens of Germany when asked about the euro currency similar to, for instance, nuclear disasters that are known to raise concerns about environmental problems in similar research settings based on interview date identification (e.g., Berger 2010).<sup>13</sup>

[Figure I]

Figure I depicts the raw data from *LexisNexis* that is the daily number of media reports about the euro crisis for each of the 365 days of 2011. The illustration shows some peaks in crisis intensity, a strong day-to-day variation, a basic trend that suggests a steady increase in the emergence of the “euro crisis” in the German media, and also a lot of noise in the final months of the year. The latter is not necessarily an issue for the following analysis as the line in the graphic does not reflect availability of actual SOEP data. A reasonable step is to restrict the period of investigation to the time when the interviews were actually carried out in that survey year (Wunder et al. 2008). Limiting the time window to the months from February to August results in almost no loss of data because less than a hundred of these out-of-order interviews

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<sup>11</sup> This data bank contains major German publications, like *Die Welt* or *Der Spiegel*, that are included with their print and online products in addition to agency reports and other sources of news media information. To avoid an arbitrary decision, the analysis considers all news media sources combined that are available in this data bank.

<sup>12</sup> Note that the English term *euro crisis* can be translated into either “Euro-Krise” or “Eurokrise” unhyphenated. In the collection of German media reports via *LexisNexis*, both possible translations are considered.

<sup>13</sup> See also Becchetti, Clark and Ricca (2011) who exploit news coverage in order to discuss how bilateral relations between countries affect migrants’ well-being in Germany.

took place in all other months combined in 2011. Since the number of interviews is already very small in August (about 1% of the sample), a sensitivity check takes place later without the few observations collected in that month.

A plausible explanation for the steady increase in media reports on the euro crisis throughout the year is that this trend reflects a media artifact connected to the establishment of a new term rather than the actual development of the crisis and its intensity. The alternative, probably incorrect, interpretation of the graphic in Figure I is that the euro crisis itself became more extreme during the course of the year. However, this increase is more likely due to the general spreading of the term; “euro crisis” first needed to be established as a key word among media people, and then it was used generally more than before. Furthermore, as more events take place, the more journalists can and will refer to previous events while writing about other issues. This could explain why the measure gives extremely high numbers for September and October in the absence of any significant event.

In the following, preference is given to a trend-adjusted IV because of the plausible media artefact argument and the possibility that a steady increase over the year might be correlated with any other steady increase in some unobserved factor. The trend adjustment is implemented in a simple way by determining the linear increase in media reports using the full set of *LexisNexis* day-by-day data for 2011. The actual number of reports for each day is then reduced by the slope parameter times the number of the day, starting with one for January 1. This procedure allows for a trend-adjusted instrument without a steady increase over time.<sup>14</sup>

Another important facet of analyzing media-triggered responses to a political development is the delay in the impact of news events on the people. For instance, an SOEP interview takes place during the day, while the bailout of a far-away country is announced in the evening. First, many survey participants may not have received the relevant information of that day while filling out the questionnaire. Second, people do not necessarily realize the implications of such events immediately, but they eventually are informed as a result of the numerous debates and reports on television or in personal discussions with others.<sup>15</sup> Hence, the actual magnitude of the impact of a political event is expected to reach its peak days after the event itself when political discussions and the spreading of information have fostered people’s concerns. In consequence, it makes sense to aggregate the media coverage intensity from the last few days prior to the interview. This may also help smoothing the day-to-day variation and dealing with weekday-specific phenomena in media coverage, such as a potential weekend effect. Note,

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<sup>14</sup> Note that for illustration purposes, the numbers used in the following are always counted in 100 reports.

<sup>15</sup> An important phenomenon in the context here is the large number of political talk shows on television, which millions of Germans watch and which often take place in the days following the actual political developments.

however, that this is not necessarily a phenomenon that is fully independent of the political development, which is exploited here with regard to its variation. Weekday differences in media coverage can also reflect that on some days of the week simply more events did take place. If true, weekday controls may play the role of “bad controls” capturing some of the exogenous variation. Therefore, the aggregation of media report numbers over several days appears to be an even more attractive idea. Also note that research on the role of survey methodology suggests that the weekday of the interview might play a direct role in measuring well-being, which leads to another important topic with high relevance in this context.

#### *II.D. Survey-specific aspects*

Survey-related aspects concerning the interview situation can affect how people give responses and thereby affect the data used in empirical analyses. This topic is of special importance in the measurement of subjective well-being and has received increased attention in recent years. Relevant factors are, for instance, a respondent’s experience with being interviewed, typically measured by the years someone has participated in a panel study. Panel experience commonly runs in parallel with lower reported life satisfaction (Chadi 2013; van Landeghem 2014). As in the case of other situation-specific factors, someone’s time spent in a panel should have no effect on reported satisfaction scores, but indeed it does, which justifies using control variables in order to capture this type of survey-related variation in the data.

The survey factor of the weekday on which the questionnaire was done may play a double role in this research context. Controlling for it in the main life satisfaction analysis appears to be necessary if there is an inherent and significant measurement bias coming from day-to-day differences in the way people report well-being.<sup>16</sup> In contrast, Tumen and Zeydanli (2014) argue that people with certain levels of life satisfaction select certain interview dates so that day variables capture real differences in happiness and not a measurement bias. If this selection argument is the more relevant one, this gives a second reason to not include day-of-the-week variables as controls, adding to the above-mentioned threat of over-controlling in the first stage of the IV analysis. The conclusion of this discussion is to conduct the analysis without day-of-the-week variables and to cautiously consider this aspect in a sensitivity check.

A third survey factor that is of great importance in the following analysis is the interview mode. In happiness research, it is helpful to control for the inherent measurement bias expected to come from the interviewer’s presence, which is known to significantly affect self-reported happiness (Conti and Pudney 2011). The intuition is that respondents are less likely to report

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<sup>16</sup> With respect to job satisfaction, Taylor (2006) argues in such a way and suggests adding day-of-the-week controls to the empirical specification as responses differ depending on the weekday of the interview.

unhappiness in the presence of interviewers compared to when they fill out a questionnaire on their own because living an unhappy life is sensitive information. One distinction on the basis of the given interview modes in the SOEP (see Appendix Table A.I) is to differentiate between modes in which respondents provided data without any interviewer presence during survey completion and those modes in which data were obtained in the (partial) presence of the interviewer.

As a specialty of the research context here, a social desirability phenomenon may not only be relevant for the outcome variable of reported happiness but plausibly might also affect self-reported concerns. The standard example in this context is when people have to answer whether they are concerned about immigration (Janus 2010), which also has been discussed as a sensitive issue explicitly with respect to the question in the SOEP (Wagner and Schraepfer 2001). Rejecting the supranational currency of the euro, favoring the former currency of the DM, having generally more nationalistic views—all these can be considered as sensitive as well. In the political atmosphere of 2011 and also in the election year of 2013 with the appearance of the new party *AfD*, expressing anti-euro and pro-DM attitudes was arguably not in line with a desire to report what was socially desirable. In particular, the German people are typically very careful to avoid political ideas that can be portrayed as nationalistic, likely a result of the country's history and the experiences of the 20<sup>th</sup> century.<sup>17</sup>

Faced with the expectation of sensitivity-based measurement phenomena, the availability of different survey modes provides an excellent opportunity to examine the importance of the political interpretation of the results. As relevance of the argument of a stigma-laden political attitude increases, the distinction between the two major survey modes is expected to make a stronger difference. While the revelation of euro skepticism and corresponding anger about German politics is one explanation for an effect in people's life satisfaction, the other explanation is perceived economic insecurity, as discussed in the following.

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<sup>17</sup> As one of many expressions of social disaffirmation, many of the *AfD* posters were vandalized during recent elections, often aimed at characterizing their political agenda as nationalistic extremism and their personnel as potential Nazis (*Tageszeitung online*, August 13, 2013; *Augsburger Allgemeine*, May 14, 2014; *Welt*, May 23, 2014). Further examples of the stigma linked to this political movement are the many cases of disturbances, and even violent attacks during campaigning (*Tagesspiegel online*, August 5, 2013) and at rallies (*Sueddeutsche online*, August 14, 2013; *Zeit online*, August 24, 2013; *Stuttgarter Zeitung*, January 13, 2014; *Saechsische Zeitung*, May 10, 2014), the willful destruction of famous party members' private property (*Berliner Morgenpost online*, September 19, 2013), and the open refusal by the major parties to cooperate with the *AfD* (*Focus online*, September 19, 2013; *Huffington Post Deutschland*, May 23, 2014; *Handelsblatt online*, August 20, 2014), topped by the announcement of the parliamentary leader of the largest Bundestag fraction, Volker Kauder, to not even discuss politics with their representatives (*Sueddeutsche online*, May 29, 2014).

### *II.E. Transmission channels*

The primary objective of the study at hand is to find out if people with concerns about the euro currency are suffering reduced life satisfaction as a result of those concerns. In a second step, this paper attempts to identify why concerns about the euro may matter to people in such a perceptible way. In their environmental study, Ferrer-i-Carbonell and Gowdy (2007) provide two interpretations of why people may be affected when being concerned about a broad social topic; the first can be described as reflecting people's awareness, whereas the second relates to attitudes.

In the context of concerns about the euro currency, it is plausible to expect that some people are better informed and thus aware of potential problems compared to others. Such knowledge might run in parallel with a feeling of economic insecurity and fears of how the future will look economically. Especially during the euro crisis, it is plausible to expect that there are citizens who differ from individuals with minimal interest in economic issues. The latter are not aware of any negative consequences, whether such negative outlook is justified or not. The awareness argument could thus imply that those who know or think they know about economic problems are the ones experiencing a lower level of well-being.<sup>18</sup> To test these considerations, the empirical model can be expanded with the available information on people's general economic concerns as well as on the concerns regarding their own economic situation. These do not serve as further controls but as variables that reflect the potential transmission channel of economic implications. In addition to the economic concern variables, an alternative outcome measure of people's expected life satisfaction in five years might yield further evidence for the fear-of-the-future argument. If becoming aware of existing problems particularly affects people's expectations regarding their future, less so their current situation and the evaluation of it, they may appreciate the current situation of high living standards even more. In consequence, if there are stronger effects in the expected compared to the general life satisfaction variable, this would substantiate the economic-insecurity interpretation.

The second interpretation of reported concerns is that people's attitudes are working as a transmission channel so that the people who report being strongly concerned about the euro have a negative view on the whole concept of supranational currency and are therefore frustrated about the political situation. Arguably, the people in Germany with an anti-euro stance cannot feel represented in this point by the major German parties that typically constitute

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<sup>18</sup> Wunder et al. (2008) argue in their study on welfare effects of euro implementation that as a consequence of perceived problems with their currency, people might change consumption behavior, which can lead to suboptimal decisions and thus lower well-being. An uncertain economic future can affect current consumption behavior, e.g., via job loss fears (Stephens 2004) or inflation expectations (Stix 2009).

the federal government and more or less support policies backing the euro currency, including the large bailout programs for countries like Greece and Portugal. A more technical argument favoring the attitude interpretation is that both framing and wording of the question may have increased the probability that respondents express anti-euro sentiment when reporting to be very concerned about the euro. In particular, the reference to the DM that is included in the wording might provoke euro-skeptical individuals to respond.<sup>19</sup>

Awareness and attitudes do not necessarily conflict in a way that people who suffer from being aware of economic problems cannot also have an anti-euro attitude. Similarly, Ferrer-i-Carbonell and Gowdy (2007) argue that when people report being concerned about the environment, this can reflect both their attitude toward *and* awareness of this specific issue. While disentangling the potential transmission channels of reduced life satisfaction from subjective concerns is a challenging task, the subsequent elections in the time after 2011 offer an interesting opportunity to find out more about the plausibility of the second and more political interpretation. The idea is to examine the potential link between people's dissatisfaction with politics concerning the euro currency and the political reaction that may have emerged in connection to it. If the political interpretation of the euro-related unhappiness is accurate, the uncomfortable situation of feeling unrepresented in German politics may serve as the trigger for people to start participating in the anti-euro protest and the formation of the new party *AfD*.

Using regional indicators that researchers can obtain upon request from the SOEP, the data sample for the whole of Germany can be broken down into 96 regional policy regions (ROR). These clusters have an average population of slightly less than a million inhabitants, and on average a hundred SOEP interviewees are in each one. At such a regional level, differences in the unhappiness among people concerned about the euro can be linked to actual voting outcomes using both a sizable number of regions and also sufficient observation numbers per ROR to allow for a meaningful analysis.<sup>20</sup> To illustrate the variation in the outcome variable in this empirical exercise, Figure II shows graphically how the voting shares of the anti-euro party *AfD* differed regionally in the federal elections of 2013. The darker color indicates a larger electoral success for the protest party.

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<sup>19</sup> Note that the item non-response of this question is very small (less than 1%), suggesting no significant comprehension problems due to the reference to the euro changeover.

<sup>20</sup> The election data on the ROR level comes from the official federal election administration that is located at the German Federal Bureau of Statistics. Upon request, the election official provides researchers with the detailed election statistics at the district level. This district data can be aggregated to higher regional levels, allowing the calculation of the election outcomes for each ROR.

[Figure II]

Looking at the actual numbers, the *AfD* received their best result in the ROR (1402) Upper Lusatia-Lower Silesia (*Oberlausitz-Niederschlesien*) with a voting share of 7.7%, far beyond the official election result of 4.7% for the entire country.<sup>21</sup> The lowest support as expressed in voting shares came from the ROR (304) Emsland with only 2.5% of the valid votes being *AfD* votes. This huge discrepancy in electoral success between a far east and a far west region suggests a potential disparity along the lines of the former separation of the country, but only at first glance. The graphical illustration in Figure II rejects the notion of an East–West as well as a potential rich–poor disparity. In fact, many of their best results for the *AfD* came from the wealthy areas in the southwest of Germany. Motivated by this puzzling illustration and the question of what is behind the rise of anti-euro protest in the heart of Europe, the merger of this election data with the SOEP data allows testing the potential link between *AfD* votes and the unhappiness of people who reported to be very concerned about the euro two years before.

### III. STANDARD CROSS-SECTIONAL AND LONGITUDINAL ANALYSIS

#### *III.A. Cross-section regression analysis*

Table I presents the results from applying model (1) and shows a significant difference in life satisfaction between people who report being very concerned about the euro and those who do not in column 1. This holds when controlling for a variety of important determinants for people’s subjective well-being. Because of some notable differences between the two major groups of individuals, such as on average a lower level of neuroticism among those who are not very concerned (see Appendix Table A.I), controlling for personality and other aspects helps isolate the actual role of concerns about the euro for well-being in such an empirical scenario. Yet, neither the personality traits nor the objective indicators of health status nor socio-economic characteristics can fully explain the significant gap in well-being. Assuming that the large set of control variables used in the specification sufficiently captures all factors relevant to the relationship of happiness and concerns about the euro, the impact of the latter can be considered as the reason for reduced well-being.

[Table I]

The next step consists of expanding the empirical model with indicators for strong concerns about other issues. The variable of being very concerned about the general economic

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<sup>21</sup> The complete data set with all election figures is available from the author upon request, as are all further results that are not shown but are mentioned in the paper.

development, added in column 2, indicates a highly significant effect that is as large as the well-being effect of the main variable of interest. However, the effect of being concerned about the currency remains strong, which conflicts with the notion that perceived problems with the euro affect people only through their economic concerns. While the state of the economy seems significant to people's well-being, the results suggest that concerns about the euro constitute an independent factor on its own.

Column 3 shows the results when adding further concerns of broader social issues. These mostly turn out to be insignificant for people's happiness. This is not only true for concerns about the environment but also for crime and hostility toward foreigners or minorities, both of which reveal significant differences in the life satisfaction averages (see Appendix Table A.II). This demonstrates the importance of controlling for factors that are related to both well-being and the probability of being concerned about social topics. The comparison also makes clear that, despite the potential endogeneity underlying the first empirical model, a negative link between such types of social concerns and life satisfaction is not the necessary outcome. In fact, some of those social concerns are in a significantly positive rather than in a negative relationship with individual life satisfaction, as is the case for being concerned about peace.<sup>22</sup>

As the ultimate test for the potential transmission channel of feeling economically insecure due to perceived problems with the euro currency, the last specification in column 4 includes a variable for people's concerns with their own economic situation. This factor is highly significant to people's well-being, as expected, but even after controlling for it there is still a significantly negative effect on well-being from being very concerned about the euro. Meanwhile, concerns about the general economic situation seem to matter only for people who also feel insecure about their own situation, as the significance of the effect in the second row disappears in the last specification. The idea that worries about one's own economic situation work as the transmission channel for the negative effect of the euro concerns seems true to some extent, as the coefficient in the last column is much smaller than the one in the first column. Yet, the effect does not disappear fully, suggesting that perceived personal economic insecurity coming from concerns about the currency is not the only transmission channel but instead some people may have a more basic and not a purely economic problem with the euro currency.

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<sup>22</sup> This is reminiscent of the Ferrer-i-Carbonell and Gowdy (2007) findings, which also reveal a positive effect on well-being from being concerned about a social issue (in their case animal conservation). Certainly, there could be a direct effect in a way that one may actually benefit from having positive and ideal goals connected to these social topics, providing an important motivation in life. Striving for peace and being concerned about it might thus become a happiness-increasing factor. As interesting as these considerations are, it is up to further research to clarify the role of these "positive" concerns.

On the basis of the first empirical model, some further analyses are carried out using outcomes other than general life satisfaction. One is the expected life satisfaction in five years, which in contrast to the main variable shifts the evaluation of one's life into the future. Appendix Table E.I shows similar and intuitive results when one life satisfaction variable is replaced with another. As a notable difference, the general concerns about the economic development remain a significant factor for expected life satisfaction, even when the concerns about one's own economic situation are considered in the specification. This suggests that the economic aspect generally plays a stronger role for the evaluation of a person's future well-being. One would therefore expect a stronger effect of being concerned about the euro in this outcome if economic insecurity is the main transmission channel. Yet, the effects are not very different when comparing the first column results with those of Table I for the general level of life satisfaction. Finally, another check of the results' plausibility is provided by the results from an alternative satisfaction measure that is expected to be unaffected by concerns about the euro. To this aim, Appendix Table D.I applies the identical empirical strategy on the outcome of satisfaction with dwelling. This variable might not be completely separate from any relationship to the issue of the euro currency as one may hypothesize that inflation fears might make people happier with the current dwelling that they have; however, it comes very close to a neutral outcome in this context, especially if the reason for the unhappiness related to the euro currency is not purely of an economic kind. Indeed, there is no negative effect in people's satisfaction with their dwelling, which further strengthens the plausibility of the main finding by dismissing the idea of a spurious correlation between concerns about the euro and satisfaction variables in general.

### *III.B. Longitudinal analysis*

The results from the panel analysis in Table II present a similar picture compared to those in the cross-sectional analysis. First and foremost, the significant effect derived from applying model (2) on the longitudinal sample further supports the hypothesis that individuals concerned about the euro suffer in terms of reduced life satisfaction. A difference to the cross-sectional results is that the topics of environmental concerns and worries about hostility toward foreigners or minorities are significant in their positive relationship to reported life satisfaction. A comparison of cross-sectional and longitudinal results suggests that these effects are not robust to the choice of the empirical model. In contrast, the only significantly negative factor among the concerns about broader social issues is again the worries about the euro, confirming the strength that this aspect seems to play in some peoples' lives. General economic concerns become insignificant when the individual economic insecurity is controlled for. The test for a

potential transmission channel of economic insecurity again cannot reject the idea that it is more than just economic problems that explain the effect of being concerned about the euro.

[Table II]

In order to check the sensitivity of the findings toward the decision to only compare strong worries with the other two categories of being somewhat and not at all concerned, a differentiation between all categories is possible by means of additional variables. The results in Appendix Table A.III demonstrate that being very concerned makes a difference in life satisfaction as the somewhat concerned category is generally not significant at a 5% level with respect to all concerns about broader social issues. As this is also true for the concerns about the euro, this supports the decision to focus on the very concerned people and to compare the individuals in this state to the rest with regard to the implications on well-being levels.

Further analyses demonstrate the results' plausibility by replacing the main outcome variable. The effect of being concerned about the euro is insignificant for the quasi-placebo outcome of satisfaction with dwelling when using the fixed-effects approach of the second empirical model (see Appendix Table D.II). Contrariwise, the results are similar to the ones in Table II when the expected life satisfaction in five years is examined. Appendix Table E.II shows that when people become strongly concerned about the euro, their expected life satisfaction goes down and this negative effect is somewhat stronger than the one found for general life satisfaction.

To summarize, the evidence in this section suggests an effect of concerns about the euro on well-being. Assuming that the key factor in the relationship between worries and well-being is personality, it is plausible to conclude that people suffer because of their concerns about the euro currency. Yet, this is an optimistic assumption, especially if the relationship of interest is between two subjective variables. Moreover, the time period between the observations is relatively long in the longitudinal analysis, so that unobservable factors may have changed over time. While one may argue that the results in the within-individual analysis are all the more impressive, there is reason for another empirical step. The following section presents results of introducing an exogenous trigger of variation in reported concerns about the euro currency.

## IV. INSTRUMENTAL VARIABLE ANALYSIS

### *IV.A. First stage and establishment of the IV*

Prior to the presentation of results from the second stage of the IV model, this subsection discusses the role of the first stage when using the data from the external source *LexisNexis*. This will demonstrate how the available exogenous variation in people's concerns about the

euro is exploited to establish an instrument that is both valid and strong. As illustrated earlier, there are several aspects that require attention.

Findings in the previous section suggest a significant reduction in individual life satisfaction when people are concerned about the euro currency that cannot be explained by perceived economic worries alone. The alternative interpretation is that there is a political component at play. If indeed the political frustration of more euro-skeptical individuals is the explanation for the observed unhappiness, the stigma aspect and socially desirable reporting have to be considered as relevant identification challenges. This is a particular issue for an IV design that attempts to exploit the ramifications of current political developments in survey data. The exogenous variation with regard to the euro crisis may indeed affect people in their views, yet it is possible that they refuse reporting private and sensitive opinions in the presence of interviewers. Instead, face-to-face situations might provoke some interviewees who actually do not care about the topic to react to such a question as they connect the topic to a current wave of media coverage. Such interviewees, without true concerns about the euro in economic or political regards, would hinder any identification of the impact on people who are truly suffering under the circumstances regarding the euro currency.

[Table III]

Table III shows how media coverage measured in the number of reports on the euro crisis of the current day, the last day, the second last day, etc. is linked to people's responses. The upper panel shows only small effects in the data obtained when interviewers are present during completion of the questionnaire. This implies that not many interviewees actually respond to the political development, independent of the important question whether they report serious concerns or not. In contrast, the crisis coverage of the last days is strongly related to the reported concerns about the euro in the other half of the data as the lower panel shows strong effects in responses given by participants filling out questionnaires without any interviewer presence.

As a further insight from Table III, the euro crisis coverage of the day is not strongly linked to the self-reported concerns, but with an increasing delay, the strength of the exogenous influence swells. It reaches its peak two and three days later, afterwards the crisis stimulus then seems to fade with time. This pattern is robust to the decision to adjust the number of reports for a linear trend as the unadjusted crisis indicator gives a similar picture, although less pronounced (see Appendix Table A.IV).

The comparison of results in the two panels of Table III and the expectation of higher reliability in the information coming from the private interview mode without the interviewer presence

suggest using these data only. This reduces concerns on reporting bias for a sensitive outcome like unhappiness and even more so for its potential and sensitive determinant that is connected to a stigma-laden political view. The strong results in the lower panel also relieve the empirical concern of a lack in strength of the exogenous variation in people's euro worries, despite smaller observation numbers. Still, to ensure having a strong IV based on these data, the idea is to establish different versions of the instrument that in one way or the other *aggregate* the report numbers over the last days. The primary IV (*IVI*) is the number of reports on the crisis from the day of the interview plus the last three days, each number reduced via the above-illustrated trend adjustment. Another IV is established that aggregates the number of reports from the previous four days, as column 5 in the lower panel of Table III still shows a highly significant effect for the four-day lag. Two further alternatives of the IV are the aggregated raw numbers *without* trend adjustment in order to allow for a sensitivity check of this point.

[Table IV]

While its validity is not directly testable, an IV can be checked regarding its effects in placebo outcomes that should not be responsive when the exogeneity argument is credible. To this aim, Table IV presents first-stage results using *IVI* as the first and preferred version of the instrument. The data sample is again the data obtained in the private survey mode, and the outcomes are all the eight types of concerns, as shown in Appendix Table A.II. The results are impressive as in seven out of eight cases the instrument is insignificant. The only concern affected throughout this analysis is the variable of interest, i.e., the concerns about the euro. Remarkably, the finding is the same when the IV is established on data from a larger time window and also when the trend adjustment is not carried out (see Appendix Tables A.V, A.VI and A.VII). These results not only document a clean instrumental variation, they also underline the interpretation according to which it is not solely an economic effect at play when people are concerned about the euro. If this were the case, one might expect some kind of link between euro crisis intensity and reported concerns about economic security, but the relationship is as insignificant as it is for all those concerns not related to the euro.

Another placebo check takes the data from 2003 and applies the 2011 euro crisis indicator. The idea is to test the exogeneity of the instrument by running the exact same model with the day-based instrument of 2011 on data from a different year but using the same dates. Hypothetically, the effect observed in the previous tables for 2011 data may not come from the euro crisis but perhaps from a seasonal pattern that would then be detectable in years other than 2011. However, Appendix Table A.VIII shows the results for concerns about the euro currency in

2003, which are indeed unrelated to the 2011 crisis indicator. This holds for all four versions of the instrument. Since the results (not shown here) for the seven other topic-specific concerns are also insignificant, which is true for all four cases, this encourages not only considering *IVI* in the following analysis but presenting additional results for the differently defined IVs as part of a broad sensitivity analysis.

#### *IV.B. Second stage and sensitivity analyses*

Table V shows the main results from applying the IV approach. The effect of euro concerns in reported life satisfaction turns out to be significantly negative. The finding does not change when the instrument aggregates the number of reports over a longer time period and it does not change when the IV is established without an adjustment for the steady increase in coverage intensity throughout the year. The independence of the crisis indicator from the personal characteristics and from other information related to the individuals with concerns about the euro allows for a causal interpretation of the effect.

[Table V]

Appendix Table A.IX presents additional results using *IVI* to check sensitivity with respect to the covariates used. As discussed above, controlling for weekday effects is potentially problematic. As a second aspect subject to a closer inspection, the *Big Five* factors are in the center of the first empirical identification strategy, but it is possible to also control for personality differences using this measure in the IV analysis here. Adding the *Big Five* indicators and the weekday controls, either separately or combined, confirms the significantly negative effect of being concerned about the euro on the level of life satisfaction.

Another sensitivity check of the IV approach re-examines the decision to focus on data from the months up to and including August, which is reasonable as there are fewer observations obtained the longer the year is but there is increasing noise in the number of media reports. Because only a few observations were collected in the survey month of August 2011, this motivates to also drop these data and to examine whether the results are sensitive to such a decision. The results shown in Appendix Table A.X, which are obtained from an exact replication of Table V with this slightly downsized data set, do not show anything new, demonstrating the robustness of the main effect found in people's well-being.

Finally, the findings from the use of alternative outcome variables for the IV analysis are similar to those attained previously. Appendix Table D.III indicates no effect of concerns about the euro for satisfaction with dwelling as the quasi-placebo outcome, while there are effects for expected life satisfaction in five years (see Appendix Table E.III). As the combined evidence

speaks for an interpretation according to which the negative effects revealed not only come from economic worries but rather reflect some basic problem that people seem to have with the euro, a final empirical step included in the following discussion offers a closer look at the political interpretation of the results.

## V. DISCUSSION

### *V.A. Interpretation of results*

In interpreting the results, it is worthwhile to examine those people who are identified as concerned and unhappy individuals, which, for the IV results, refers to the methodological debate on the local average treatment effects and the compliers as the target group of an instrument (Imbens and Angrist 1994; Angrist and Pischke 2008). There are different types of people with concerns about the euro and its development, as also discussed in previous work on people's views about this currency (Isengard and Schneider 2007). Someone who has always been rather skeptical of the euro currency does not need a crisis event to become concerned. Such a person is possibly not even identified in a longitudinal analysis, which identifies those who have changed their views. The existence of people who always have been concerned, of those who became concerned in the years after the euro implementation, and of others who became concerned during the crisis suggests applying an empirical strategy that considers multiple methodological approaches. While all three applied here come to the same conclusion, it is still important to understand who is susceptible to such treatment in the form of a developing euro crisis and the coverage about it, as those are the ones identified in the IV analysis. It is not the person with long-term beliefs regarding the euro currency who responds to such an instrument but instead it is the compliers, who show rather short-term reactions to recent news events. The finding of a significantly negative effect in those people's life satisfaction and the interpretation of a change in political attitudes requires some illustration.

At first, it is possible that the unhappy people identified in the IV analysis recover from their unhappiness and their potential frustration about the situation may decline with time. If there is such a momentary frustration at play that actually reduces people's reported happiness for only a limited time, this reduces the weight that one should give to the social costs aspect in interpreting the results. Yet, the experience of unhappiness and great anger can be enough to alter political views of some individuals. Whereas attitudes are generally known to be rather stable, the setting here is not in line with this idea when discussing the potential support for a party that is just about to come into existence. In fact, in a world with perfectly stable political preferences, a protest party like the *AfD* cannot arise. At one point in time, some people must have changed their views and have come to the conclusion that there is a need for a new political

representation. It appears to be a plausible interpretation of the empirical evidence that this moment of political re-orientation might have happened for some citizens in the investigation period analyzed here, even if their state of unhappiness was not necessarily long lasting.

This political interpretation of the results is in parallel with the realization of being confronted with a very sensitive topic and thus the prevalence of socially desirable response phenomena. While this supports the strategy of using data from private survey modes in which interviewers are not present, one may ask whether this is only an issue for the IV analysis. Hence, an additional test of this sensitivity argument can be carried out by re-doing Tables I and II without the data from the potentially biased interview modes.<sup>23</sup> Another point worthy of discussion is a potential selection effect of certain types of individuals who choose a certain way of participating in the survey. Here, it is arguably more hypothetical to expect that people purposefully select themselves into the private interview mode due to their views on the currency. It is possible however, that generally more pessimistic and unhappy individuals meet the criteria from the perspective of the interviewer to be offered an alternative to the face-to-face interview. Arguably, if there is such a selection of unhappy individuals, then it is all the more impressive to find effects when restricting the data to the private interview mode only, as the comparison takes place between systematically unhappier people, insofar as this selection argument holds.<sup>24</sup> Instead, the impression from studying the data is that all participants have been treated by the exogenous variation in the political development, but a consistent reporting of both unhappiness and euro concerns has only taken place in the private interview mode. Hence, the conclusion of the discussion is that this study has found a small minority of Germans who were indeed affected in their well-being from being concerned about the euro, just as there was a minority of unhappy people who became politically involved to start the first major anti-euro protest movement in Germany.

#### *V.B. Unhappiness and election outcomes*

A final empirical step looks more closely at the political potential in the unhappiness of the people concerned about the euro and links that information to actual election outcomes. As previous studies discussing the link between politics and happiness mostly concentrate on the implications of political outcomes for people's well-being (e.g., Di Tella and MacCulloch 2005; Tsutsui, Kimball and Ohtake 2010), the idea here is to reverse the relationship by postulating

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<sup>23</sup> A weaker link between being concerned and reported life satisfaction could be interpreted as suggestive for an inconsistency in the argument. However, despite the sizable loss of data, the effects stay strongly significant and even gain in magnitude.

<sup>24</sup> Note that there is no empirical indication for a strong selection phenomenon. For instance, separately conducted Heckman selection analyses yield no significant outcomes.

that the unhappier the people concerned about a political issue are, the more likely they are to change political views and become politically active.

In order to incorporate the actual voting outcomes of the official 2013 German federal elections as a measure for the potential effect of the protest potential lying in the unhappiness of dissatisfied voters, this final analysis takes place at a regional level. For each of the 96 ROR, an indicator of regional unhappiness among those reporting to be very concerned about the euro is established and then linked to the *AfD* election results. The latter is the absolute number of votes divided by the total number of eligible voters per region.<sup>25</sup>

[Table VI]

Table VI presents the evidence on the link between the regional voting outcome for the *AfD* in 2013 and the overall life satisfaction of the people who are reportedly concerned about the euro in 2011. A significant relation between the two factors in column 1 confirms that less happiness of concerned individuals predicts greater electoral success for the anti-euro protest party.<sup>26</sup> This descriptive finding remains robust to a more complex determination of the regional unhappiness among euro-concerned individuals. In the other columns, the happiness averages are replaced with interaction coefficients from separate regressions, which include variables for all regions and their interactions with the indicator of being strongly concerned about the euro. This exercise gives 96 different interaction coefficients, one for each region, and allows taking the overall life satisfaction differences between the regions of Germany into account. Furthermore, an expanded regression model in this separate analysis considers differences in the *Big Five* personality measures (column 3) as well as all the other available control variables used in the main specification of Table I (column 4). The significant relationship between the interaction coefficients and the subsequent *AfD* voting shares remains robust across all the different specifications used to determine the regional indicators for regional unhappiness of those concerned about the euro.

To illustrate the intuition behind the figures, the two regions of Muenster in North Rhine-Westphalia and North Black Forest (*Nordschwarzwald*) in Baden-Wuerttemberg serve as

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<sup>25</sup> An alternative is to use the total number of *valid* votes per region as a reference, which is done by the election officials to determine the election results and thus also in the illustrative examples in Section II. However, according to this official definition, a party's success depends on the success of the other parties, which makes the use of the other definition superior when analyzing solely the success of a specific party. Note that the results in Table VI are not sensitive to this decision of how to define the voting share. Furthermore, the results are not sensitive to the consideration of control variables at the regional level, such as the local unemployment rate.

<sup>26</sup> This relationship also exists when this additional analysis is conducted on the basis of the smaller data set from self-completed questionnaires without an interviewer presence, despite the loss of data. Note that only the full data set allows consideration of all the 96 ROR due to sufficient observation numbers.

examples. In the latter ROR (807), people with strong concerns about the euro report being much less satisfied with their lives in comparison to both the national average and the average of the other people living there. In addition to the strong election results that the *AfD* received in many eastern regions of Germany, the *AfD* received their best result of all the western regions in that ROR. Contrariwise, those who reported being very concerned about the euro currency in the ROR (511) of Muenster reported high levels of happiness in comparison and absolutely. Two years later, the *AfD* received a rather minor election outcome there.

## VI. CONCLUSION

This study into the non-monetary implications of people's concerns about the euro currency provides both economically and politically relevant findings and also gives some methodological insights for micro-economic research. First and foremost, the evidence in the SOEP data supports the hypothesis that people in Germany actually suffer from their concerns about the euro currency, measurable in reduced life satisfaction. This finding is universal to the use of several methodological approaches; it gains additional plausibility in the form of similar effects for an alternative outcome (expected life satisfaction) and insignificant effects for a quasi-placebo outcome (satisfaction with dwelling). Juxtaposing the effects of being concerned with the results for other worries about social topics show that most of those are insignificant for people's well-being. The effect of being concerned about the euro does not lose its significance when economic insecurity is controlled for. Considering this aspect weakens the link between worries about the euro and well-being, but it cannot fully explain people's unhappiness. Overall, the findings point to a political interpretation and suggest that the concerns about the euro reflect a political attitude. Accordingly, euro-skeptic people are reporting both concerns and also lower happiness, which can be explained by the political situation in which frustrated citizens perceived a lack of representation in German party politics. Knowing about the social desirability issue of having anti-euro views or being generally more in favor of nationalistic ideas, this study gives great attention to survey-specific aspects in the data collection process. Incorporating the discussion of survey methodology into the analysis demonstrates the important role that aspects, like the interview mode, are able to play in studies using subjective data. Assuming that it is possible to distinguish between more honest and less honest responses on the basis of survey modes, research can actually be enhanced by having information of such a technical kind. In fact, a strong effect of the political development on people's concerns can only be observed in data that was obtained without interviewer presence. As a key methodological contribution, the paper demonstrates how exogenous variation in the form of a developing euro crisis can be used as the basis for an IV analysis. To identify the

effect of being concerned about the currency, the study combines data on the quantity of media reports with technical information on the interview dates to identify survey participants that are randomly affected by the varying intensity of the crisis. The determination of an interview date may have its influencing factors, but the anticipation of a political event with reference to the euro currency is not plausibly among those. The instrument fulfils the criterion of relevance, as concerns about the euro increase strongly when the crisis indicator does so beforehand, and it also appears to be valid, as no other concerns of the people are systematically affected. Instead, randomly selected interviewees are hit by exogenous variation in media coverage intensity caused by political events that the people of Germany arguably cannot influence, while the only channel through which this indicator affects well-being is through one's concerns about the euro currency. This serves as an example for other micro-economic research objectives, and the comprehensive discussion of relevant survey aspects may help researchers in the attempt to identify causal evidence in non-experimental survey data based on interview date identification. With respect to the economic and political implications, any significant reduction in people's life satisfaction is of concern from a social perspective. The finding of non-monetary costs associated with people's worries about the euro adds to the objective economic pros and cons of the euro currency. Beyond the economic relevance of unhappiness, there is also a political relevance of this type of subjectively perceived discomfort. Some people may have been very dissatisfied because of their concerns about the economic issue of the currency and the perception that those views were not fully represented in politics. Following this line of argument, the paper gives an illustration of how protest movements can start and how subjective data can contribute to the understanding of people's behavior.

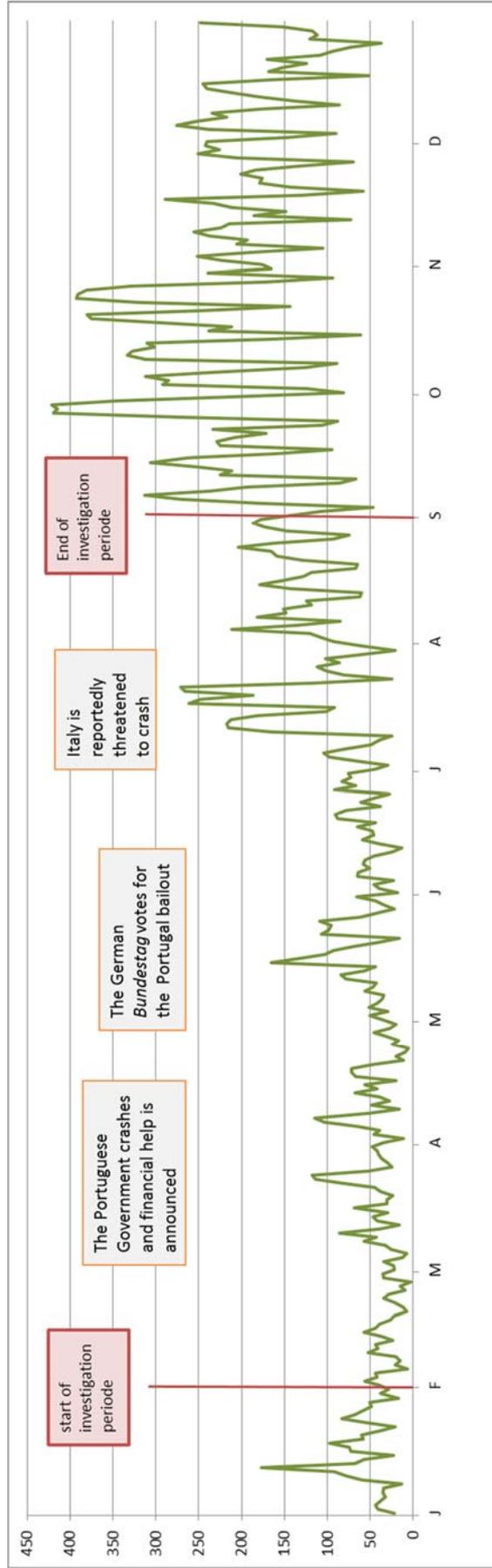
The link between individual unhappiness and political activity appears to be a very promising topic for future research, especially in the context of political protest. During the finalization of this paper, the *AfD* became an established power in the political spectrum of Germany, entering one parliament after another. Similar parties have gathered enormous election successes across Europe. The effects revealed in the study may reflect one of the origins of this type of protest and the formation of another major anti-euro party having its foundation in the unhappiness of an angry minority of citizens who appeared to be very concerned about their currency in times of overall happiness and economic abundance.

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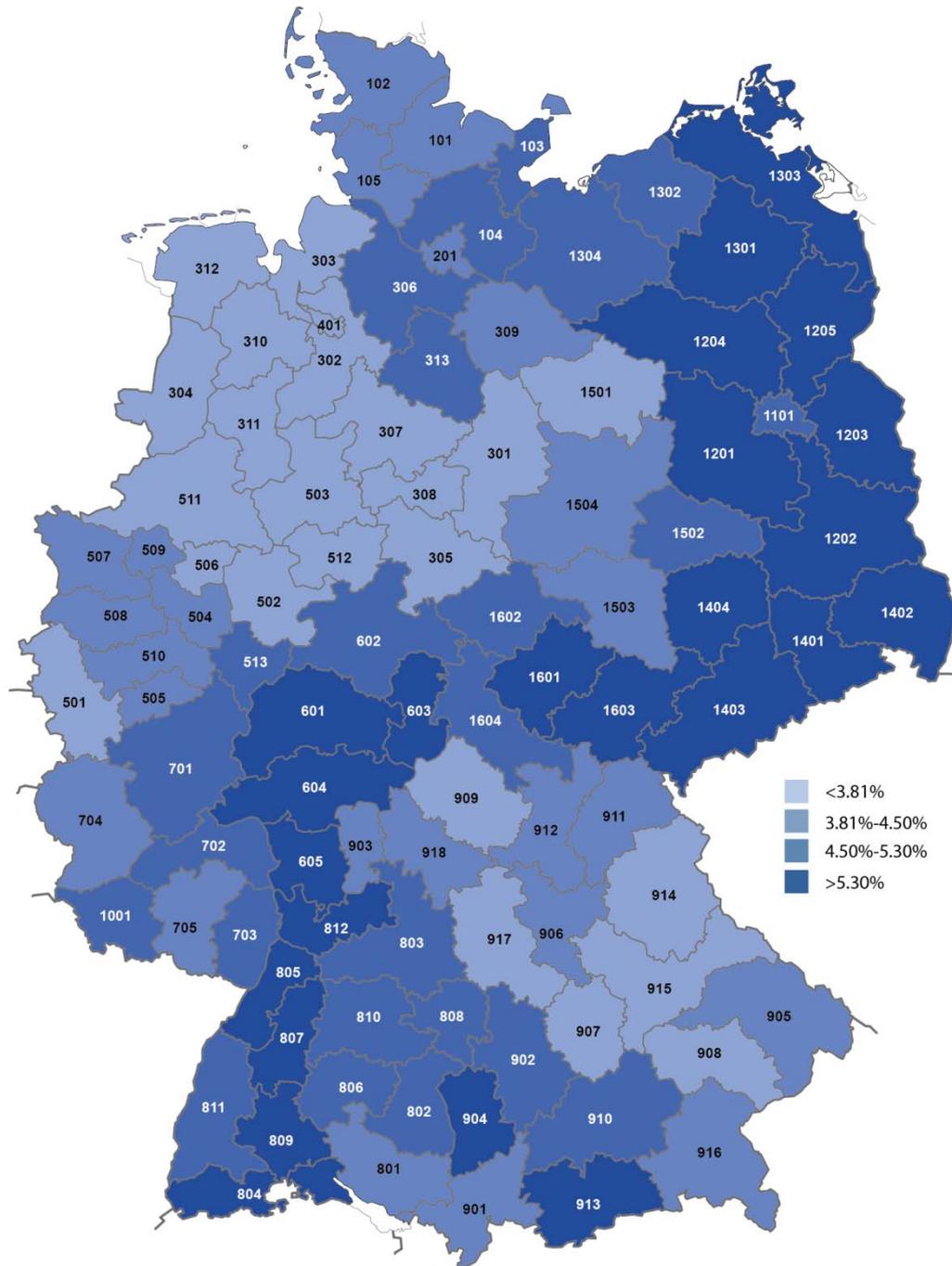
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**FIGURE I**

**EURO CRISIS IN THE GERMAN MEDIA**

*Notes:* The graph shows for each day of 2011 the number of media reports containing the term "euro crisis" according to *LexisNexis*.



**FIGURE II**

**AfD FEDERAL ELECTION RESULTS OF 2013**

*Notes:* The map shows the regional *AfD* voting shares for all 96 ROR (numbered from 101 to 1404) according to the official federal election administration data. The four different colors represent a quartile-based categorization. The increasing dark blue color indicates a higher regional voting share in the 2013 election outcomes. The creation of this map benefitted from a template provided by Germany's Federal Institute for Research on Building, Urban Affairs and Spatial Development.

**TABLE I**  
LIFE SATISFACTION AND CONCERNS ABOUT THE EURO:  
STANDARD CROSS-SECTION REGRESSION

Specification:	(1)	(2)	(3)	(4)
Concerns about the euro	-0.296*** (0.056)	-0.230*** (0.060)	-0.227*** (0.062)	-0.161*** (0.061)
<i>Other general concerns</i>				
Economic development		-0.247*** (0.059)	-0.295*** (0.061)	-0.012 (0.060)
Environment			0.068 (0.050)	0.079 (0.049)
Peace			0.153*** (0.052)	0.160*** (0.051)
Crime			0.046 (0.055)	0.052 (0.054)
Immigration			-0.141** (0.061)	-0.105* (0.061)
Xenophobia			0.000 (0.062)	0.040 (0.061)
<i>Individual-specific concerns</i>				
Own economic situation				-0.934*** (0.064)
Observations	12,518	12,518	12,518	12,518
R <sup>2</sup>	0.224	0.227	0.230	0.262
Set of control variables	Yes	Yes	Yes	Yes
<i>Big Five</i> personality	Yes	Yes	Yes	Yes

*Notes:* Dependent variable is life satisfaction on a 0 to 10 scale. Variables for concerns are binary indicators that always represent “very concerned” responses. Set of controls includes variables for gender, migration background (number of variables is 2), age (3), nationality (4), religion (3), education (4), employment (6), retirement, income, house ownership, housing conditions (4), household composition (3), family status (4), partnership, health status (3), recent life events (6), federal state (15), year in the panel (26), and interview mode (5). *Big Five* personality is a set of 10 binary variables for high and low extraversion, agreeableness, conscientiousness, neuroticism, and openness. See Appendix Table A.I for an overview of the variables used. See Table C.I for the complete results. Robust standard errors are in parentheses. Survey weights are used. SOEP data from 2011 (with *Big Five* measures from 2009) are used. \*  $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ .

**TABLE II**  
LIFE SATISFACTION AND CONCERNS ABOUT THE EURO:  
FIXED-EFFECTS REGRESSIONS

Specification:	(1)	(2)	(3)	(4)
Concerns about the euro	-0.203*** (0.062)	-0.188*** (0.062)	-0.230*** (0.063)	-0.175*** (0.062)
<i>Other general concerns</i>				
Economic development		-0.107** (0.047)	-0.138*** (0.047)	-0.007 (0.047)
Environment			0.103** (0.052)	0.134*** (0.051)
Peace			0.041 (0.050)	0.032 (0.049)
Crime			0.055 (0.053)	0.060 (0.052)
Immigration			0.012 (0.059)	0.028 (0.058)
Xenophobia			0.128** (0.060)	0.143** (0.059)
<i>Individual-specific concerns</i>				
Own economic situation				-0.665*** (0.063)
Observations	18,364	18,364	18,364	18,364
R <sup>2</sup>	0.077	0.078	0.081	0.108
Set of control variables	Yes	Yes	Yes	Yes
Year and individual fixed effects	Yes	Yes	Yes	Yes

*Notes:* Dependent variable is life satisfaction on a 0 to 10 scale. Variables for concerns are binary indicators that always represent “very concerned” responses. Set of controls includes variables for age (number of variables is 2), nationality (4), religion (3), education (4), employment (6), retirement, income, house ownership, housing conditions (4), household composition (3), family status (4), partnership, health status (3), recent life events (6), federal state (15), year in the panel (26), and interview mode (5). See Appendix Table A.I for an overview of the variables used. Robust standard errors are in parentheses. Survey weights are used. SOEP data from 2003 and 2011 are used.  
\*  $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ .

**TABLE III**  
**CONCERNS ABOUT THE EURO AND MEDIA COVERAGE OF THE EURO CRISIS:**  
**SAMPLE SPLIT**

<b>a)</b>						
Interview mode: Specification:	Only data from interviews with (partial) interviewer presence					
	(1)	(2)	(3)	(4)	(5)	(6)
Lag:	none	1 day	2 days	3 days	4 days	5 days
Euro-crisis intensity (trend adjusted)	0.014 (0.598)	0.021 (0.920)	0.045* (1.807)	0.046* (1.928)	0.034 (1.469)	-0.003 (-0.152)
Observations	6,948	6,948	6,948	6,948	6,948	6,948
R <sup>2</sup>	0.052	0.052	0.053	0.053	0.053	0.052
Set of control variables	Yes	Yes	Yes	Yes	Yes	Yes
<b>b)</b>						
Interview mode: Specification:	Only data from interviews without interviewer presence					
	(1)	(2)	(3)	(4)	(5)	(6)
Lag:	none	1 day	2 days	3 days	4 days	5 days
Euro-crisis intensity (trend adjusted)	0.029 (1.012)	0.064** (2.066)	0.141*** (4.442)	0.141*** (4.683)	0.109*** (3.624)	0.061* (1.914)
Observations	5,570	5,570	5,570	5,570	5,570	5,570
R <sup>2</sup>	0.108	0.110	0.118	0.117	0.114	0.110
Set of control variables	Yes	Yes	Yes	Yes	Yes	Yes

*Notes:* All specifications examine the probability of being very concerned about the euro dependent on the number of media reports on the euro crisis at the survey day (Specification 1) or earlier. Specifications 2/3/4/5/6 use the lagged number from one day/two days/three days/four days/five days prior to the survey day. The report numbers are adjusted for the overall increase in coverage throughout the year of 2011. The results in the upper panel come from regressions based only on data collected in (partial) interviewer presence. The results in the lower panel come from regressions based only on data collected without interviewer presence. The set of control variables is the same as in Table I with the exception of interview mode controls. Robust standard errors are in parentheses. Survey weights are used. SOEP data from 2011 and LexisNexis data are used. \*  $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ .

**TABLE IV**  
**VARIOUS TYPES OF CONCERNS AND**  
**AGGREGATED MEDIA COVERAGE OF THE EURO CRISIS (*IVI*)**

Specification:	(1)	(2)	(3)	(4)
Concerns about:	Euro	General economic	Environment	Peace
<i>IVI</i> : Euro-crisis intensity (aggregated, trend adjusted)	0.169*** (0.040)	0.001 (0.038)	-0.065 (0.041)	0.002 (0.043)
Observations	5,570	5,570	5,570	5,570
R <sup>2</sup>	0.116	0.048	0.017	0.038
Set of control variables	Yes	Yes	Yes	Yes

Specification:	(5)	(6)	(7)	(8)
Concerns about:	Crime	Immigration	Xenophobia	Own economic
<i>IVI</i> : Euro-crisis intensity (aggregated, trend adjusted)	-0.025 (0.039)	0.009 (0.038)	-0.026 (0.035)	0.003 (0.035)
Observations	5,570	5,570	5,570	5,570
R <sup>2</sup>	0.093	0.088	0.046	0.119
Set of control variables	Yes	Yes	Yes	Yes

*Notes:* All specifications examine the probability of being very concerned about a given topic, which is in the title of each column. The independent variable is always the aggregated number of media reports about the euro crisis that is trend adjusted for the overall increase in coverage throughout the year of 2011. Aggregation implies summing up the media report numbers of the survey day plus those of the last three days. The results come from regressions based only on data collected without interviewer presence. The set of control variables is the same as in Table I with the exception of interview mode controls. Robust standard errors are in parentheses. Survey weights are used. SOEP data from 2011 and *LexisNexis* data are used. \*  $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ .

**TABLE V**  
LIFE SATISFACTION AND CONCERNS ABOUT THE EURO:  
INSTRUMENTAL VARIABLE ANALYSIS

<i>Establishment of instrument</i>	<i>IV1</i>	<i>IV2</i>	<i>IV3</i>	<i>IV4</i>
Aggregation of media reports includes:	Last three days		Last four days	
Trend adjustment:	Yes	No	Yes	No
<b>First stage</b>	(1)	(2)	(3)	(4)
Euro-crisis intensity	0.169*** (0.040)	0.110*** (0.033)	0.197*** (0.043)	0.123*** (0.035)
Observations	5,570	5,570	5,570	5,570
R <sup>2</sup>	0.130	0.128	0.132	0.129
<b>Second stage</b>	(1)	(2)	(3)	(4)
Concerns about the euro	-2.034** (0.888)	-2.250** (1.034)	-1.696** (0.786)	-1.937** (0.963)
Observations	5,570	5,570	5,570	5,570
R <sup>2</sup>	0.091	0.059	0.134	0.105
Kleibergen-Paap Wald F statistic	17.695	11.088	21.134	12.459
Set of control variables	Yes	Yes	Yes	Yes

*Notes:* Dependent variable in the second stage is life satisfaction on a 0 to 10 scale. Endogenous variable of being very concerned about the euro is the dependent variable in the first stage. The instrumental variable is the aggregated number of media reports about the euro crisis that is either adjusted for the overall increase in coverage throughout the year of 2011 (“yes”) or not (“no”). Aggregation implies summing up the media report numbers of the survey day plus those of the “last three days” or “last four days”. All analyses in this table use data collected in interview modes without interviewer presence. The set of control variables is the same as in Table I with the exception of interview mode controls. Robust standard errors are in parentheses. Survey weights are used. SOEP data from 2011 and *LexisNexis* data are used. \*  $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ .

**TABLE VI**  
LIFE SATISFACTION, CONCERNS ABOUT THE EURO AND VOTING RESULTS:  
REGIONAL COMPARISON

Specification:	(1)	(2)	(3)	(4)
Regional life satisfaction indicator	-0.004*** (0.001)	-0.002*** (0.001)	-0.002*** (0.001)	-0.003*** (0.001)
Regional GDP	-0.001 (0.002)	-0.002 (0.002)	-0.002 (0.002)	-0.002 (0.002)
Regional unemployment rate	0.027 (0.025)	0.030 (0.026)	0.029 (0.026)	0.031 (0.026)
Regional share of foreigners	0.025 (0.030)	0.030 (0.031)	0.030 (0.031)	0.034 (0.030)
Constant	0.033*** (0.005)	0.033*** (0.005)	0.033*** (0.005)	0.033*** (0.005)
Observations	96	96	96	96
R <sup>2</sup>	0.188	0.114	0.114	0.109

*Notes:* Dependent variable is the regional vote share for the *AfD* in the 2013 German federal elections. The main independent variable in Specification (1) is the regional (demeaned) average of life satisfaction among those individuals reporting to be very concerned about the euro currency according to the data of 2011. The other specifications include the 96 coefficients of interaction terms between each region and the binary indicator of being very concerned about the euro currency (from separate life satisfaction regressions in the vein of those presented in Table I). Specification (2) uses the interaction coefficients from regressions that include region indicators and interaction terms with being concerned about the euro. Specification (3) uses the interaction coefficients from regressions that include region indicators, interaction terms, and the *Big Five* personality measures. Specification (4) uses the interaction coefficients from regressions that include region indicators, interaction terms, the *Big Five* personality measures, and all control variables used in Table I. Robust standard errors are in parentheses. SOEP data from 2011 (with *Big Five* measures from 2009) are used. Voting results for each regional policy region are based on own calculations using the 2013 federal election data from the federal election administration. Further independent variables at the regional level are the gross domestic product (in 10000 Euro per capita), the local unemployment rate and the share of foreigners in 2011. This data comes from the Federal Institute for Research on Building, Urban Affairs and Spatial Development. \*  $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ .

## APPENDIX A: ADDITIONAL TABLES

**TABLE A.I**  
DESCRIPTIVE INFORMATION

Variable	<i>Concerned about the euro:</i>		Diff.	<i>Full sample</i>		
	<i>Yes</i>	<i>No</i>		Mean	Min	Max
Female	0.51	0.52	-0.01	0.51	0	1
No migration background	0.85	0.83	0.02	0.83	0	1
Direct migration background	0.09	0.12	-0.02*	0.11	0	1
Indirect migration background	0.06	0.06	0.00	0.06	0	1
Age	53.75	51.70	2.05***	52.13	20	101
Nationality: German	0.93	0.92	0.01	0.92	0	1
Nationality: Turkish	0.03	0.02	0.01	0.02	0	1
Nationality: Italian	0.01	0.01	-0.00	0.01	0	1
Nationality: Greek	0.00	0.00	0.00	0.00	0	1
Nationality: others	0.03	0.05	0.04	0.04	0	1
Religion: catholic	0.28	0.29	-0.01	0.04	0	1
Religion: protestant	0.32	0.33	-0.01	0.29	0	1
Religion: other	0.06	0.05	0.01	0.33	0	1
Religion: no confession	0.34	0.32	0.02	0.05	0	1
Education: primary	0.20	0.13	0.07***	0.15	0	1
Education: secondary	0.70	0.63	0.07***	0.65	0	1
Education: tertiary	0.10	0.23	-0.14***	0.20	0	1
Education years	11.22	12.44	-1.22***	12.18	7	18
Employment: full-time	0.39	0.41	-0.02	0.40	0	1
Employment: regular part-time	0.10	0.11	-0.01	0.11	0	1
Employment: Marginal, irregular part-t.	0.05	0.05	-0.00	0.05	0	1
Employment: other forms (e.g., retraining)	0.01	0.02	-0.00	0.02	0	1
Employment: out of labor force	0.45	0.41	0.04**	0.42	0	1
Registered as unemployed	0.07	0.05	0.03***	0.05	0	1
Retired	0.05	0.06	-0.01*	0.06	0	1
Self-employed	0.32	0.29	0.03**	0.30	0	1
Equalized real income	1504.15	1810.04	-305.89***	1745.76	65	18484
Owner of dwelling	0.45	0.51	-0.06***	0.49	0	1
Dwelling: in good condition	0.68	0.69	-0.01	0.69	0	1
Dwelling: some renovation needed	0.28	0.28	0.00	0.28	0	1
Dwelling: full renovation needed	0.03	0.02	0.01	0.03	0	1
Living area	95.77	101.63	-5.87***	100.40	9	500
Number of persons in household	2.31	2.35	-0.05	2.34	1	12
Person needing care in household	0.04	0.04	0.01	0.04	0	1
No children in household	0.79	0.77	0.03*	0.77	0	1
Family status: married	0.56	0.55	0.00	0.56	0	1
Family status: single	0.20	0.25	-0.05***	0.24	0	1
Family status: divorced	0.13	0.09	0.04***	0.10	0	1
Family status: widowed	0.09	0.08	0.01	0.08	0	1
Family status: married but separated	0.02	0.02	0.00	0.02	0	1
Partnership	0.73	0.74	-0.01	0.74	0	1
Doctor visits	2.88	2.46	0.42***	2.55	0	99
Disability	0.19	0.13	0.05***	0.15	0	1
Hospital stay	0.15	0.13	0.03**	0.13	0	1
Recently married	0.01	0.01	-0.00	0.33	0	1
Recently moved together with partner	0.01	0.02	-0.00	0.01	0	1
Recently divorced	0.01	0.01	0.01*	0.02	0	1
Recently separated from partner	0.03	0.01	0.01**	0.01	0	1
Recently experienced death of partner	0.01	0.00	0.00	0.00	0	1
Recently had a child	0.01	0.02	-0.01***	0.02	0	1

(To be continued on the next page)

<i>Survey factors</i>						
Year in the panel	14.04	13.32	0.72***	13.47	2	28
Oral interview with paper and pencil	0.23	0.18	0.05***	0.19	0	1
Oral interview with computer assistance	0.23	0.26	-0.03***	0.26	0	1
Self-written with interviewer presence	0.02	0.02	-0.00	0.02	0	1
Partly oral, partly self-written interview	0.02	0.03	-0.01**	0.03	0	1
Self-written without interviewer presence	0.18	0.20	-0.01	0.19	0	1
Self-written and sent via mail	0.32	0.31	0.01	0.31	0	1
Day of the interview: Monday	0.21	0.18	0.03**	0.18	0	1
Day of the interview: Tuesday	0.15	0.17	-0.02**	0.17	0	1
Day of the interview: Wednesday	0.18	0.20	-0.02*	0.20	0	1
Day of the interview: Thursday	0.16	0.16	-0.00	0.16	0	1
Day of the interview: Friday	0.14	0.14	-0.00	0.14	0	1
Day of the interview: Saturday	0.10	0.10	-0.00	0.10	0	1
Day of the interview: Sunday	0.06	0.04	0.02**	0.05	0	1
<i>Big Five personality</i>						
Extraversion	4.76	4.72	0.04	4.73	1	7
Agreeableness	5.41	5.44	-0.03	5.43	1	7
Conscientiousness	5.93	5.80	0.13***	5.83	1	7
Neuroticism	4.16	3.79	0.37***	3.86	1	7
Openness	4.33	4.37	-0.04	4.36	1	7
<i>Concerns about different topics</i>						
Concerned about the euro	1	0		0.21	0	1
Concerned about economic development	0.45	0.16	0.30***	0.22	0	1
Concerned about environmental protection	0.43	0.28	0.15***	0.31	0	1
Concerned about maintaining peace	0.52	0.30	0.22***	0.34	0	1
Concerned about crime in Germany	0.62	0.26	0.36***	0.34	0	1
Concerned about immigration to Germany	0.55	0.18	0.37***	0.25	0	1
Concerned about xenophobia in Germany	0.33	0.15	0.18***	0.19	0	1
Concerned about own economic situation	0.38	0.15	0.23***	0.20	0	1
<i>Observations</i>	2,455	10,063		12,518		

Notes: Significance levels in column 3 are from *t*-tests on mean differences between those who are very concerned about the euro and those who are not. \*  $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ .

**TABLE A.II**  
CONCERNS ABOUT DIFFERENT TOPICS AND AVERAGES IN LIFE SATISFACTION

Variable	<i>Very concerned:</i>		<i>No</i>		Diff.	Sign.
	<i>Yes</i>		Mean	Obs.		
Concerned about the euro	Mean	Obs.	Mean	Obs.		
Concerned about the euro	6.36	2,455	6.97	10,063	-0.61	***
Concerned about economic development	6.44	2,701	6.96	9,817	-0.52	***
Concerned about environmental protection	6.82	3,807	6.85	8,711	-0.03	
Concerned about maintaining peace	6.81	4,194	6.86	8,324	-0.06	
Concerned about crime in Germany	6.67	4,114	6.93	8,404	-0.26	***
Concerned about immigration to Germany	6.53	3,035	6.95	9,483	-0.42	***
Concerned about xenophobia in Germany	6.69	2,294	6.88	10,224	-0.19	***
Concerned about own economic situation	5.78	2,299	7.11	10,219	-1.34	***

Notes: Significance levels in the last column are from *t*-tests on mean differences between those who are very concerned on the topic given in a row and those who are not. \*  $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ .

**TABLE A.III**  
LIFE SATISFACTION AND CONCERNS ABOUT THE EURO:  
FIXED-EFFECTS REGRESSIONS

Specification:	(1)	(2)	(3)	(4)
Concerns about the euro:				
Somewhat concerned	-0.029 (0.049)	-0.025 (0.049)	-0.040 (0.049)	-0.023 (0.048)
Very concerned	-0.222*** (0.068)	-0.205*** (0.068)	-0.256*** (0.071)	-0.189*** (0.069)
<i>Other general concerns</i>				
Economic development:				
Somewhat concerned		0.016 (0.076)	-0.008 (0.075)	0.049 (0.074)
Very concerned		-0.091 (0.086)	-0.148* (0.086)	0.066 (0.086)
Environment:				
Somewhat concerned			0.049 (0.067)	0.071 (0.066)
Very concerned			0.152* (0.080)	0.210*** (0.080)
Peace:				
Somewhat concerned			-0.087 (0.078)	-0.105 (0.078)
Very concerned			-0.046 (0.088)	-0.068 (0.087)
Crime:				
Somewhat concerned			0.109 (0.070)	0.118* (0.069)
Very concerned			0.163* (0.086)	0.175** (0.084)
Immigration:				
Somewhat concerned			-0.053 (0.055)	-0.045 (0.053)
Very concerned			-0.036 (0.076)	-0.006 (0.075)
Xenophobia:				
Somewhat concerned			0.039 (0.057)	0.044 (0.055)
Very concerned			0.162** (0.078)	0.177** (0.076)
<i>Individual-specific concerns</i>				
Own economic situation:				
Somewhat concerned				-0.248*** (0.053)
Very concerned				-0.892*** (0.078)
Observations	18,364	18,364	18,364	18,364
R <sup>2</sup>	0.077	0.078	0.082	0.113
Set of control variables	Yes	Yes	Yes	Yes
Year and individual fixed effects	Yes	Yes	Yes	Yes

Notes: See Table II for more information. \*  $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ .

**TABLE A.IV**  
**CONCERNS ABOUT THE EURO AND MEDIA COVERAGE OF THE EURO CRISIS:**  
**SAMPLE SPLIT**

<b>a)</b>						
Interview mode: Specification:	Only data from interviews with (partial) interviewer presence					
	(1)	(2)	(3)	(4)	(5)	(6)
Lag:	None	1 day	2 days	3 days	4 days	5 days
Euro-crisis intensity (unadjusted)	0.020 (0.916)	0.025 (1.127)	0.047* (1.940)	0.050** (2.204)	0.040* (1.824)	0.007 (0.335)
Observations	6,948	6,948	6,948	6,948	6,948	6,948
R <sup>2</sup>	0.052	0.052	0.053	0.053	0.053	0.052
Set of control variables	Yes	Yes	Yes	Yes	Yes	Yes
<b>b)</b>						
Interview mode: Specification:	Only data from interviews without interviewer presence					
	(1)	(2)	(3)	(4)	(5)	(6)
Lag:	none	1 day	2 days	3 days	4 days	5 days
Euro-crisis intensity (unadjusted)	0.030 (1.165)	0.052* (1.929)	0.108*** (3.922)	0.111*** (4.086)	0.089*** (3.204)	0.056* (1.836)
Observations	5,570	5,570	5,570	5,570	5,570	5,570
R <sup>2</sup>	0.109	0.110	0.116	0.116	0.114	0.110
Set of control variables	Yes	Yes	Yes	Yes	Yes	Yes

*Notes:* All specifications examine the probability of being very concerned about the euro dependent on the number of media reports on the euro crisis at the survey day (Specification 1) or earlier. Specifications 2/3/4/5/6 use the lagged number from one day/two days/three days/four days/five days prior to the survey day. The report numbers are not adjusted for the overall increase in coverage throughout the year of 2011. The results in the upper panel come from regressions based only on data collected with (partial) interviewer presence, the results in the lower panel come from regressions based only on data collected without interviewer presence. The set of control variables is the same as in Table I with the exception of interview mode controls. Robust standard errors are in parentheses. Survey weights are used. SOEP data from 2011 and LexisNexis data are used. \*  $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ .

**TABLE A.V**  
**VARIOUS TYPES OF CONCERNS AND**  
**AGGREGATED MEDIA COVERAGE OF THE EURO CRISIS (IV2)**

Specification:	(1)	(2)	(3)	(4)
Concerns about:	Euro	General economic	Environment	Peace
<i>IV2</i> : Euro-crisis intensity (aggregated, unadjusted)	0.110*** (0.033)	0.010 (0.030)	-0.000 (0.031)	-0.017 (0.034)
Observations	5,570	5,570	5,570	5,570
R <sup>2</sup>	0.114	0.048	0.016	0.038
Set of control variables	Yes	Yes	Yes	Yes
Specification:	(5)	(6)	(7)	(8)
Concerns about:	Crime	Immigration	Xenophobia	Own economic
<i>IV2</i> : Euro-crisis intensity (aggregated, unadjusted)	-0.024 (0.031)	-0.024 (0.030)	-0.020 (0.028)	-0.013 (0.025)
Observations	5,570	5,570	5,570	5,570
R <sup>2</sup>	0.093	0.088	0.046	0.120
Set of control variables	Yes	Yes	Yes	Yes

*Notes:* All specifications examine the probability of being very concerned about a given topic, which is in the title of each column. The independent variable is always the aggregated number of media reports about the euro crisis that is not adjusted for the overall increase in coverage throughout the year of 2011. Aggregation implies summing up the media report numbers of the survey day plus those of the last three days. The results come from regressions based only on data collected without interviewer presence. The set of control variables is the same as in Table I with the exception of interview mode controls. Robust standard errors are in parentheses. Survey weights are used. SOEP data from 2011 and *LexisNexis* data are used.  
\*  $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ .

**TABLE A.VI**  
**VARIOUS TYPES OF CONCERNS AND**  
**AGGREGATED MEDIA COVERAGE OF THE EURO CRISIS (*IV3*)**

Specification:	(1)	(2)	(3)	(4)
Concerns about:	Euro	General economic	Environment	Peace
<i>IV3</i> : Euro-crisis intensity (aggregated, trend adjusted)	0.197*** (0.043)	0.016 (0.040)	-0.067 (0.043)	-0.001 (0.046)
Observations	5,570	5,570	5,570	5,570
R <sup>2</sup>	0.117	0.048	0.017	0.038
Set of control variables	Yes	Yes	Yes	Yes
Specification:	(5)	(6)	(7)	(8)
Concerns about:	Crime	Immigration	Xenophobia	Own economic
<i>IV3</i> : Euro-crisis intensity (aggregated, trend adjusted)	-0.029 (0.042)	-0.000 (0.041)	-0.011 (0.036)	0.005 (0.036)
Observations	5,570	5,570	5,570	5,570
R <sup>2</sup>	0.093	0.088	0.046	0.119
Set of control variables	Yes	Yes	Yes	Yes

*Notes:* All specifications examine the probability of being very concerned about a given topic, which is in the title of each column. The independent variable is always the aggregated number of media reports about the euro crisis that is trend adjusted for the overall increase in coverage throughout the year of 2011. Aggregation implies summing up the media report numbers of the survey day plus those of the last four days. The results come from regressions based only on data collected without interviewer presence. The set of control variables is the same as in Table I with the exception of interview mode controls. Robust standard errors are in parentheses. Survey weights are used. SOEP data from 2011 and *LexisNexis* data are used.  
\*  $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ .

**TABLE A.VII**  
**VARIOUS TYPES OF CONCERNS AND**  
**AGGREGATED MEDIA COVERAGE OF THE EURO CRISIS (*IV4*)**

Specification:	(1)	(2)	(3)	(4)
Concerns about:	Euro	General economic	Environment	Peace
<i>IV4</i> : Euro-crisis intensity (aggregated, unadjusted)	0.123*** (0.035)	0.019 (0.032)	0.003 (0.032)	-0.020 (0.035)
Observations	5,570	5,570	5,570	5,570
R <sup>2</sup>	0.115	0.048	0.016	0.038
Set of control variables	Yes	Yes	Yes	Yes
Specification:	(5)	(6)	(7)	(8)
Concerns about:	Crime	Immigration	Xenophobia	Own economic
<i>IV4</i> : Euro-crisis intensity (aggregated, unadjusted)	-0.026 (0.032)	-0.031 (0.031)	-0.011 (0.029)	-0.013 (0.026)
Observations	5,570	5,570	5,570	5,570
R <sup>2</sup>	0.093	0.088	0.046	0.119
Set of control variables	Yes	Yes	Yes	Yes

*Notes:* All specifications examine the probability of being very concerned about a given topic, which is in the title of each column. The independent variable is always the aggregated number of media reports about the euro crisis that is not adjusted for the overall increase in coverage throughout the year of 2011. Aggregation implies summing up the media report numbers of the survey day plus those of the last four days. The results come from regressions based only on data collected without interviewer presence. The set of control variables is the same as in Table I with the exception of interview mode controls. Robust standard errors are in parentheses. Survey weights are used. SOEP data from 2011 and *LexisNexis* data are used.  
\*  $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ .

**TABLE A.VIII**  
**CONCERNS ABOUT THE EURO IN 2003 AND MEDIA COVERAGE OF THE EURO CRISIS:**  
**PLACEBO CHECK**

<i>Establishment of instrument</i>	<i>IV1</i>	<i>IV2</i>	<i>IV3</i>	<i>IV4</i>
Aggregation of media reports includes:	Last three days		Last four days	
Trend adjustment	Yes	No	Yes	No
	(1)	(2)	(3)	(4)
Concerns about:	Euro	Euro	Euro	Euro
Euro-crisis intensity	0.015 (0.031)	0.034 (0.034)	0.016 (0.032)	0.040 (0.036)
Observations	3,359	3,359	3,359	3,359
R <sup>2</sup>	0.111	0.111	0.111	0.111
Set of control variables	Yes	Yes	Yes	Yes

*Notes:* All specifications examine the probability of being very concerned about the euro. The independent variable is the aggregated number of media reports about the euro crisis that is either adjusted for the overall increase in coverage throughout the year of 2011 (“yes”) or not (“no”). Aggregation implies summing up the media report numbers of the survey day plus those of the “last three days” or “last four days”. Analyses in this table only use data collected in interview modes without interviewer presence. The set of control variables is the same as in Table I with exception of interview mode controls. Robust standard errors are in parentheses. Survey weights are used. SOEP data from 2003 and *LexisNexis* data are used. \*  $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ .

**TABLE A.IX**  
LIFE SATISFACTION AND CONCERNS ABOUT THE EURO:  
IV ANALYSIS (SENSITIVITY CHECK 1 WITH *IVI*)

<b>First stage</b>	(1)	(2)	(3)	(4)
<i>IVI</i> : Euro-crisis intensity (aggregated, trend adjusted)	0.169*** (0.040)	0.161*** (0.039)	0.174*** (0.041)	0.163*** (0.040)
Observations	5,570	5,570	5,570	5,570
R <sup>2</sup>	0.008	0.130	0.149	0.156
<b>Second stage</b>	(1)	(2)	(3)	(4)
Concerns about the euro	-2.034** (0.888)	-2.046** (0.925)	-1.845** (0.890)	-1.870** (0.939)
Observations	5,570	5,570	5,570	5,570
R <sup>2</sup>	0.091	0.123	0.119	0.149
Kleibergen-Paap Wald F statistic	17.695	17.090	17.843	16.784
Set of control variables	Yes	Yes	Yes	Yes
<i>Big Five</i> personality	No	Yes	No	Yes
Day of the week	No	No	Yes	Yes

*Notes:* Dependent variable in the second stage is life satisfaction on a 0 to 10 scale. Endogenous variable of being very concerned about the euro is the dependent variable in the first stage. The instrumental variable is the same as in Specification (1) in Table V, so that Specification (1) is identical in both tables. The IV is the aggregated number of media reports about the euro crisis that is trend adjusted for the overall increase in coverage throughout the year of 2011. Aggregation implies summing up the media report numbers of the survey day plus those of the last three days. Analyses in this table only use data collected in interview modes without interviewer presence. The set of control variables is the same as in Table I with the exception of interview mode controls. *Big Five* personality is a set of 10 binary variables for high and low extraversion, agreeableness, conscientiousness, neuroticism, and openness. Day of the week controls are six variables reflecting the weekday on which the questionnaire was filled out. Survey weights are used. SOEP data from 2011 (with Big Five measures from 2009) and *LexisNexis* data are used. \*  $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ .

**TABLE A.X**  
**LIFE SATISFACTION AND CONCERNS ABOUT THE EURO:**  
**IV ANALYSIS (SENSITIVITY CHECK 2 WITH ALL IVs)**

<i>Establishment of instrument</i>	<i>IV1</i>	<i>IV2</i>	<i>IV3</i>	<i>IV4</i>
Aggregation of media reports includes:	Last three days		Last four days	
Trend adjustment	Yes	No	Yes	No
<b>First stage</b>	(1)	(2)	(3)	(4)
Euro-crisis intensity	0.191*** (0.044)	0.144*** (0.037)	0.166*** (0.041)	0.130*** (0.036)
Observations	5,494	5,494	5,494	5,494
R <sup>2</sup>	0.132	0.132	0.131	0.131
<b>Second stage</b>				
Concerns about the euro	-1.737** (0.817)	-1.896** (0.855)	-2.046** (0.913)	-2.154** (0.908)
Observations	5,494	5,494	5,494	5,494
R <sup>2</sup>	0.133	0.114	0.094	0.078
Kleibergen-Paap Wald F statistic	19.116	14.853	16.317	13.422
Set of control variables	Yes	Yes	Yes	Yes

*Notes:* This analysis is identical to the one shown in Table V with the exception of the data sample that only considers the months from February to July of 2011. \*  $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ .

## **APPENDIX B: BACKGROUND INFORMATION**

The two tables in Appendix B illustrate the situation in Germany during the year 2011 by means of media excerpts. The overview of the news headlines shows how the German people were faced with a euro crisis that so far had played hardly any role in their lives, economically speaking. It did, however, play a large role in the media that the German people were consuming, which is shown in Table B.I that deals with the concerns about the euro. The list includes headlines and exemplary quotes from the most remarkable events of that year, such as the Portugal bailout.

In contrast to the more worrying media reports on the euro crisis, a very positive picture emerges when looking at the collection of media reports that Table B.II presents. This positive view on the situation in Germany comes from the recognition that the economic turmoil only took place in other European countries, especially in the south, while the country with Europe's largest economy was actually doing very well in economic terms. This paradoxical phenomenon of extraordinary happiness in Germany during times of crisis is well demonstrated by a study on the well-being of Germans, which gained much attention in the media. The authors (Koecher and Raffelhueschen 2011) came to the conclusion that happiness was so widespread in Germany, despite the ongoing euro crisis, that the national average of people's satisfaction with their lives had reached heights the country had not seen for many years.

**TABLE B.I**  
**THE EURO CRISIS IN THE GERMAN MEDIA**

Date	Headline/Excerpt	Source
March 12	Toeing the line with a new Euro-pact: an accord should provide more currency stability - the plan to do so remains vague <i>“Government leaders from 17 countries are hoping to calm financial market turbulence with a new pact for the Euro. Insiders, however, expressed concerns that the new agreement alone will not be sufficient. Risk surcharges for countries that remain on the brink could, in fact, continue to rise. A high-ranking EU diplomat told Die Welt ‘This new pact is an empty shell’.”</i>	Die Welt
March 22	Is Portugal the next to need financial help? <i>“For the first time since the beginning of the crisis, the Portuguese government is considering accepting assistance from the Euro rescue fund.”</i>	Der Tagesspiegel
March 23	Portuguese government collapses due to austerity measures <i>“Portugal’s government has failed: Prime Minister Socrates has announced his resignation – he was unable to gather a majority in parliament to support his austerity measures. The country is now facing uncertain times.”</i>	Spiegel Online
March 24	Another rise in Euro anxiety: The resignation of Prime Minister Jose Socrates is causing a crisis in more than just Portugal <i>“The little land of Portugal is frightening itself and the whole of Europe. Portugal is deeply indebted and the poorest of all western European countries and now the Prime Minister has resigned. The fact that Jose Socrates chose to resign on, of all days, the day before the EU summit in Brussels, is causing the much feared political MCA.”</i>	Stuttgarter Nachrichten
March 25	Portugal’s government is done: The socialist minority administration of Jose Socrates has collapsed under the weight of the austerity measures. <i>“It is assumed to be precluded that the Portugal will apply for assistance during the two day EU summit which is now taking place. In the intermediate-term, however, it will be difficult to avoid seeking aid from either the EU or the IMF.”</i>	taz
April 06	Finance crisis: Portugal applies for Euro crisis aid <i>“An application for aid could only be seen as a ‘last resort’. Within the EU, the worry that neighboring Spain will be the next to slip into the mess named the Euro-debt-crisis dominates.”</i>	Berliner Morgenpost Online
April 07	Portugal’s government requests billions in aid from the EU after all <i>“Portugal is, after Greece and Ireland, the third to fall into the European safety net“</i>	Hamburger Abendblatt
April 08	Relief after Portugal’s call for help: An aid package should be quickly adopted – and with a scope of in between 60 and 80 billion Euros <i>“Portugal’s fall into the safety net was applauded.”</i>	Börsen-Zeitung
Mai 04	Bail-out package: Portugal’s banks receive 12 billion Euros <i>“The deeply indebted country, with the help of the EU and the IMF, has agreed to package containing 78 billion Euros. The citizens will have to tighten their belts.”</i>	Berliner Morgenpost Online
Mai 05	Portugal receives 78 billion from the EU and the IMF – for a promise of extreme austerity measures; despite the help, two years of recession are looming <i>“Portugal’s people will pay a high price for the EU aid package.”</i>	Hamburger Abendblatt Online
Mai 12	Schaeuble promotes Portugal aid – the German Federal Parliament votes yes: <i>“The majority of the Bundestag voted yes on a non-binding resolution accepting the 78 billion Euro aid package for Portugal.”</i>	DAPD
July 07	After Portugal, Italy comes under pressure <i>“At the same time, worries over Italy’s position grow. Due to its precarious financial balance, it could be the next country to come under pressure.”</i>	Die Presse
July 13	Fear of Italian bankruptcy grows <i>“The fear of an Italian bankruptcy grows. The situation in the EU’s third largest economy is re-invoking bad memories from the Lehman Brothers bankruptcy which started the financial crisis of 2008.”</i>	Rheinische Post
July 19	Dangerous fears about the Euro <i>“The people’s worries about their money are not to be ignored.”</i>	B.Z.

**TABLE B.II**  
**POSITIV MEDIA REPORTS OF 2011 ON THE SITUATION IN GERMANY**

Date	Headline/Excerpt	Source
February 23	Germans more optimistic than ever <i>“The Germans are readier to buy than they’ve been for years. The good mood in the markets is increasingly animating normal consumers.”</i>	Berliner Morgenpost
March 03	Employment explosion: Excitement in the German job market <i>“While the jobless numbers around the world rose, German numbers remained almost unchanged. [...] – as a result, foreign markets today observe the German job miracle with interest.”</i>	Immobilien Zeitung
March 11	Economic growth: Germany’s economists predict a marathon boom <i>“The British paper ‘Economist’ titled a recent article about the German economic upturn ‘Angie in Wonderland’. The British paper maintained that Angela Merkel is living in an economic fairy tale land as Germany outpaces every single other European national economy.”</i>	Welt Online
May 25	First class recovery: Economic growth better than before the crisis <i>“The German economy maintains high spirits. Driven by strong investments, the robust upswing has increased pace in the first quarter.”</i>	Kölnische Rundschau
August 13	The role model is called Germany <i>“In analyses on economic renewal, experts return again and again to a familiar role model: Germany. „Look! In the sky! Is it a bird, is it a plane? No! It’s the German economy!., enthused renowned New Yorker economist Robert Brusca.”</i>	Focus Magazin
August 25	Some scream „Recession!“ but Germany could walk away unscathed. <i>„It helps Germany that it isn’t the sickling anymore, instead it’s Europe’s muscle man.”</i>	Die ZEIT
September 01	Unemployment historically low: The status of the job market remained unchanged in August. Retailers are betting on good sales. <i>“Germany has the fourth lowest unemployment rate in all of Europe; among the 27 EU-States, Germany is shining.”</i>	Welt Kompakt
September 20	Study: What makes a happy German different <i>“Germans feel better today than they have since 2001 – despite the crisis.”</i>	Spiegel Online
September 21	Completely contented: During the crisis, the Germans remain optimistic. <i>“Germans have retained their optimism that the financial and euro crisis cannot affect their positive attitude towards life. Quite the opposite, in fact, the happiness factor has actually increased to a new record level.”</i>	Nürnberger Nachrichten
September 21	According to a new study, the Germans are more satisfied than ever before <i>“The Euro crisis and the danger of a possible recession fail to impress most people: measurements of subjective life satisfaction show an upward trend.”</i>	Welt kompakt
October 25	Germans, despite the Euro crisis, remain in a buying mood: A strong labour market is maintaining a positive atmosphere. <i>“Despite Euro worries, [...] German citizens expect to continue to earn well and are planning larger personal investments.”</i>	Welt aktuell
November 25	Consumer elation is warming the business climate: In the third quarter, the German economy grew by 0.5%, outstripping expectations. <i>“In the middle of the Euro debt crisis, the investment happy consumers and businesses have given the German economy another shot in the arm.”</i>	Hamburger Abendblatt
November 30	Strong German labour market despite European debt crisis <i>“German labour market has proved to be far more stable than rest of Europe.”</i>	AFP
December 01	Fall fairy tale for the labour market: Only 2.713 million jobless in Germany <i>“The sovereign debt crisis in Europe has not affect the German labour market.”</i>	Welt kompakt
December 30	The Germans are confident about 2012: Those who earn well, have little to fear in the new year, according to a turn of the year poll. <i>“Despite all the crises, Germans are approaching the new year optimistically. 49% believe that 2012 will a good year for them.”</i>	Generalanzeiger Bonn

## APPENDIX C: COMPLETE RESULTS

**TABLE C.I**  
LIFE SATISFACTION AND CONCERNS ABOUT THE EURO:  
STANDARD CROSS-SECTION REGRESSION (COMPLETE RESULTS)

Specification:	(1)	(2)	(3)	(4)
Female	0.142*** (0.047)	0.145*** (0.047)	0.132*** (0.047)	0.109** (0.046)
Direct migration background	-0.114 (0.094)	-0.125 (0.094)	-0.141 (0.094)	-0.077 (0.093)
Indirect migration background	-0.005 (0.095)	-0.009 (0.094)	-0.015 (0.094)	-0.003 (0.092)
Age	-0.102** (0.042)	-0.104** (0.042)	-0.100** (0.042)	-0.083** (0.041)
Age squared	0.001* (0.001)	0.001* (0.001)	0.001* (0.001)	0.001 (0.001)
Age cubed	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
German nationality	-0.094 (0.150)	-0.100 (0.149)	-0.099 (0.148)	-0.137 (0.149)
Turkish nationality	-0.216 (0.225)	-0.214 (0.226)	-0.188 (0.225)	-0.145 (0.220)
Italian nationality	-0.247 (0.236)	-0.266 (0.238)	-0.260 (0.237)	-0.342 (0.242)
Greek nationality	-0.029 (0.637)	-0.010 (0.634)	0.048 (0.627)	-0.050 (0.616)
Catholic	0.117* (0.064)	0.116* (0.064)	0.113* (0.064)	0.093 (0.064)
Protestant	0.002 (0.058)	-0.003 (0.058)	-0.006 (0.058)	-0.017 (0.057)
Other religion	-0.075 (0.140)	-0.060 (0.139)	-0.095 (0.138)	-0.080 (0.137)
Secondary education	0.038 (0.084)	0.046 (0.084)	0.055 (0.084)	0.064 (0.082)
Tertiary education	0.248* (0.127)	0.262** (0.127)	0.279** (0.126)	0.277** (0.122)
Education years	0.069 (0.096)	0.065 (0.096)	0.062 (0.095)	0.066 (0.093)
Education years squared	-0.003 (0.003)	-0.003 (0.003)	-0.003 (0.003)	-0.003 (0.003)
Full-time employment	-0.089 (0.167)	-0.087 (0.167)	-0.096 (0.168)	-0.087 (0.168)
Regular part-time employment	0.020 (0.177)	0.020 (0.177)	0.002 (0.178)	0.014 (0.177)
Marginal, irregular part-time employment	-0.024 (0.185)	-0.017 (0.185)	-0.040 (0.186)	0.019 (0.183)
Out of labor force	-0.028 (0.173)	-0.019 (0.173)	-0.037 (0.174)	0.006 (0.171)
Registered as unemployed	-0.544*** (0.126)	-0.529*** (0.126)	-0.524*** (0.125)	-0.370*** (0.121)
Self-employed	-0.064 (0.095)	-0.054 (0.094)	-0.046 (0.094)	0.024 (0.094)
Retired	0.101 (0.114)	0.094 (0.114)	0.095 (0.113)	0.040 (0.109)
Log equalized real income	0.421*** (0.060)	0.414*** (0.060)	0.404*** (0.059)	0.296*** (0.058)
Owner of dwelling	0.026 (0.054)	0.020 (0.054)	0.024 (0.053)	-0.001 (0.052)

*(To be continued on the next page)*

Dwelling needs some renovation	-0.343*** (0.049)	-0.342*** (0.049)	-0.347*** (0.049)	-0.338*** (0.048)
Dwelling needs full renovation	-0.632*** (0.171)	-0.620*** (0.169)	-0.628*** (0.166)	-0.581*** (0.161)
Living area	0.002 (0.002)	0.002 (0.002)	0.002 (0.002)	0.002 (0.002)
Living area squared	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
Number of persons in household	0.022 (0.028)	0.023 (0.028)	0.022 (0.028)	0.031 (0.027)
Person needing care in household	-0.755*** (0.121)	-0.769*** (0.121)	-0.767*** (0.121)	-0.731*** (0.121)
No children in household	0.006 (0.076)	0.005 (0.076)	0.008 (0.076)	0.013 (0.075)
Married	0.014 (0.082)	0.013 (0.082)	0.015 (0.082)	-0.018 (0.081)
Divorced	-0.089 (0.101)	-0.087 (0.101)	-0.093 (0.100)	-0.081 (0.098)
Widowed	-0.006 (0.111)	-0.014 (0.111)	-0.008 (0.111)	-0.003 (0.108)
Separated	-0.016 (0.150)	-0.015 (0.150)	-0.015 (0.149)	0.022 (0.139)
Partnership	0.412*** (0.070)	0.412*** (0.070)	0.417*** (0.070)	0.437*** (0.068)
Number of doctor visits	-0.060*** (0.006)	-0.059*** (0.006)	-0.060*** (0.006)	-0.057*** (0.006)
Disability	-0.295*** (0.066)	-0.295*** (0.066)	-0.297*** (0.066)	-0.275*** (0.064)
Hospital stay	-0.299*** (0.068)	-0.297*** (0.069)	-0.294*** (0.069)	-0.265*** (0.068)
Recently married	0.043 (0.273)	0.050 (0.275)	0.066 (0.276)	0.074 (0.264)
Recently moved together with partner	0.086 (0.143)	0.078 (0.141)	0.068 (0.140)	0.093 (0.136)
Recently divorced	0.379 (0.307)	0.359 (0.303)	0.386 (0.294)	0.302 (0.281)
Recently separated from partner	-0.240 (0.183)	-0.241 (0.181)	-0.247 (0.178)	-0.228 (0.173)
Recently experienced death of partner	-1.395*** (0.504)	-1.415*** (0.513)	-1.404*** (0.505)	-1.264*** (0.489)
Recently had a child	0.745*** (0.120)	0.745*** (0.122)	0.731*** (0.122)	0.689*** (0.125)
Oral interview with computer assistance	-0.018 (0.058)	-0.019 (0.058)	-0.025 (0.058)	-0.064 (0.057)
Self-written with interviewer presence	-0.245** (0.112)	-0.238** (0.113)	-0.245** (0.113)	-0.282** (0.111)
Partly oral, partly self-written interview	0.006 (0.099)	-0.004 (0.098)	0.002 (0.098)	-0.062 (0.093)
Self-written without interviewer presence	-0.290*** (0.063)	-0.289*** (0.063)	-0.292*** (0.063)	-0.314*** (0.062)
Self-written questionnaire and sent via mail	-0.261*** (0.071)	-0.262*** (0.071)	-0.265*** (0.071)	-0.290*** (0.070)
Low extraversion	-0.208*** (0.050)	-0.209*** (0.050)	-0.206*** (0.050)	-0.205*** (0.049)
High extraversion	-0.020 (0.056)	-0.020 (0.056)	-0.023 (0.056)	-0.012 (0.055)
Low agreeableness	-0.107** (0.051)	-0.105** (0.051)	-0.093* (0.051)	-0.097* (0.050)
High agreeableness	0.134** (0.056)	0.139** (0.056)	0.130** (0.056)	0.118** (0.055)

(To be continued on the next page)

Low conscientiousness	-0.132*** (0.049)	-0.141*** (0.049)	-0.141*** (0.048)	-0.147*** (0.047)
High conscientiousness	0.022 (0.059)	0.032 (0.059)	0.044 (0.059)	0.027 (0.058)
Low neuroticism	0.383*** (0.048)	0.369*** (0.048)	0.375*** (0.048)	0.328*** (0.047)
High neuroticism	-0.407*** (0.057)	-0.400*** (0.057)	-0.400*** (0.057)	-0.340*** (0.056)
Low openness	0.036 (0.047)	0.031 (0.048)	0.041 (0.047)	0.038 (0.047)
High openness	0.149** (0.058)	0.154*** (0.058)	0.147** (0.058)	0.166*** (0.056)
Concerned about the euro	-0.296*** (0.056)	-0.230*** (0.060)	-0.227*** (0.062)	-0.161*** (0.061)
Concerned about economic development		-0.247*** (0.059)	-0.295*** (0.061)	-0.012 (0.060)
Concerned about environmental protection			0.068 (0.050)	0.079 (0.049)
Concerned about maintain peace			0.153*** (0.052)	0.160*** (0.051)
Concerned about crime in Germany			0.046 (0.055)	0.052 (0.054)
Concerned about immigration to Germany			-0.141** (0.061)	-0.105* (0.061)
Concerned about xenophobia in Germany			0.000 (0.062)	0.040 (0.061)
Concerned about own economic situation				-0.934*** (0.064)
Observations	12,518	12,518	12,518	12,518
R <sup>2</sup>	0.224	0.227	0.230	0.262
Further control variables	Yes	Yes	Yes	Yes

*Notes:* Dependent variable is life satisfaction on a 0 to 10 scale. Further controls includes variables for federal state (15) and year in the panel (26). See Table I for more information. \*  $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ .

## APPENDIX D: DWELLING SATISFACTION

**TABLE D.I**  
SATISFACTION WITH DWELLING AND CONCERNS ABOUT THE EURO:  
STANDARD CROSS-SECTION REGRESSION

Specification:	(1)	(2)	(3)	(4)
Concerns about the euro	-0.059 (0.058)	-0.036 (0.062)	-0.029 (0.065)	0.006 (0.065)
<i>Other general concerns</i>				
Economic development		-0.085 (0.061)	-0.090 (0.065)	0.054 (0.065)
Environment			0.043 (0.055)	0.048 (0.055)
Peace			-0.043 (0.055)	-0.039 (0.054)
Crime			0.066 (0.056)	0.068 (0.055)
Immigration			-0.099 (0.062)	-0.081 (0.061)
Xenophobia			0.049 (0.065)	0.069 (0.064)
<i>Individual-specific concerns</i>				
Own economic situation				-0.475*** (0.070)
Observations	12,483	12,483	12,483	12,483
R <sup>2</sup>	0.287	0.287	0.288	0.295
Set of control variables	Yes	Yes	Yes	Yes
<i>Big Five</i> personality	Yes	Yes	Yes	Yes

*Notes:* Dependent variable is satisfaction with dwelling on a 0 to 10 scale. See Table I for more information.

\*  $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ .

**TABLE D.II**  
**SATISFACTION WITH DWELLING AND CONCERNS ABOUT THE EURO:**  
**FIXED-EFFECTS REGRESSIONS**

Specification:	(1)	(2)	(3)	(4)
Concerns about the euro	0.049 (0.065)	0.052 (0.066)	0.053 (0.067)	0.066 (0.067)
<i>Other general concerns</i>				
Economic development		-0.023 (0.051)	-0.035 (0.052)	-0.006 (0.051)
Environment			-0.046 (0.057)	-0.039 (0.057)
Peace			0.097* (0.053)	0.095* (0.053)
Crime			0.019 (0.051)	0.020 (0.051)
Immigration			-0.084 (0.063)	-0.080 (0.063)
Xenophobia			0.062 (0.065)	0.066 (0.065)
<i>Individual-specific concerns</i>				
Own economic situation				-0.149** (0.065)
Observations	18,314	18,314	18,314	18,314
R <sup>2</sup>	0.131	0.131	0.133	0.134
Set of control variables	Yes	Yes	Yes	Yes
Year and individual fixed effects	Yes	Yes	Yes	Yes

*Notes:* Dependent variable is satisfaction with dwelling on a 0 to 10 scale. See Table II for more information.

\*  $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ .

**TABLE D.III**  
**SATISFACTION WITH DWELLING AND CONCERNS ABOUT THE EURO:**  
**INSTRUMENTAL VARIABLE ANALYSIS**

<i>Establishment of instrument</i>	<i>IV1</i>	<i>IV2</i>	<i>IV3</i>	<i>IV4</i>
Aggregation of media reports includes:	Last three days		Last four days	
Trend-adjustment:	Yes	No	Yes	No
<b>First stage</b>	(1)	(2)	(3)	(4)
Euro-crisis intensity	0.170*** (0.041)	0.109*** (0.033)	0.198*** (0.043)	0.122*** (0.035)
Observations	5,549	5,549	5,549	5,549
R <sup>2</sup>	0.131	0.129	0.133	0.130
<b>Second stage</b>	(1)	(2)	(3)	(4)
Concerns about the euro	0.506 (0.894)	-0.504 (1.125)	0.433 (0.807)	-0.520 (1.066)
Observations	5,549	5,549	5,549	5,549
R <sup>2</sup>	0.265	0.270	0.268	0.270
Kleibergen-Paap Wald F statistic	17.569	10.755	21.021	12.113
Set of control variables	Yes	Yes	Yes	Yes

*Notes:* Dependent variable is satisfaction with dwelling on a 0 to 10 scale. See Table III for more information.

\*  $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ .

## APPENDIX E: EXPECTED LIFE SATISFACTION

**TABLE E.I**  
 EXPECTED LIFE SATISFACTION AND CONCERNS ABOUT THE EURO:  
 STANDARD CROSS-SECTION REGRESSION

Specification:	(1)	(2)	(3)	(4)
Concerns about the euro	-0.402*** (0.058)	-0.307*** (0.061)	-0.313*** (0.064)	-0.256*** (0.063)
<i>Other general concerns</i>				
Economic development		-0.356*** (0.058)	-0.395*** (0.061)	-0.156*** (0.060)
Environment			0.048 (0.051)	0.058 (0.050)
Peace			0.134*** (0.052)	0.141*** (0.051)
Crime			0.002 (0.057)	0.007 (0.056)
Immigration			-0.043 (0.064)	-0.013 (0.064)
Xenophobia			-0.034 (0.066)	-0.001 (0.064)
<i>Individual-specific concerns</i>				
Own economic situation				-0.788*** (0.066)
Observations	12,280	12,280	12,280	12,280
R <sup>2</sup>	0.274	0.280	0.281	0.300
Set of control variables	Yes	Yes	Yes	Yes
<i>Big Five</i> personality	Yes	Yes	Yes	Yes

*Notes:* Dependent variable is expected life satisfaction in five years on a 0 to 10 scale. See Table I for more information. \*  $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ .

**TABLE E.II**  
**EXPECTED LIFE SATISFACTION AND CONCERNS ABOUT THE EURO:**  
**FIXED-EFFECTS REGRESSIONS**

Specification:	(1)	(2)	(3)	(4)
Concerns about the euro	-0.312*** (0.070)	-0.279*** (0.069)	-0.314*** (0.070)	-0.271*** (0.069)
<i>Other general concerns</i>				
Economic development		-0.237*** (0.052)	-0.262*** (0.053)	-0.151*** (0.052)
Environment			0.002 (0.059)	0.029 (0.059)
Peace			0.067 (0.052)	0.059 (0.052)
Crime			0.040 (0.053)	0.047 (0.053)
Immigration			0.046 (0.067)	0.059 (0.066)
Xenophobia			0.090 (0.069)	0.102 (0.069)
<i>Individual-specific concerns</i>				
Own economic situation				-0.568*** (0.069)
Observations	17,752	17,752	17,752	17,752
R <sup>2</sup>	0.054	0.059	0.060	0.078
Set of control variables	Yes	Yes	Yes	Yes
Year and individual fixed effects	Yes	Yes	Yes	Yes

*Notes:* Dependent variable is expected life satisfaction in five years on a 0 to 10 scale. See Table II for more information. \*  $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ .

**TABLE E.III**  
**EXPECTED LIFE SATISFACTION AND CONCERNS ABOUT THE EURO:**  
**INSTRUMENTAL VARIABLE ANALYSIS**

<i>Establishment of instrument</i>	<i>IV1</i>	<i>IV2</i>	<i>IV3</i>	<i>IV4</i>
Aggregation of media reports includes:	Last three days		Last four days	
Trend-adjustment:	Yes	No	Yes	No
<b>First stage</b>	(1)	(2)	(3)	(4)
Euro-crisis intensity	0.160*** (0.040)	0.101*** (0.033)	0.186*** (0.043)	0.113*** (0.035)
Observations	5,535	5,535	5,535	5,535
R <sup>2</sup>	0.132	0.130	0.134	0.131
<b>Second stage</b>	(1)	(2)	(3)	(4)
Concerns about the euro	-2.640** (1.036)	-2.145* (1.136)	-2.379*** (0.923)	-1.926* (1.052)
Observations	5,535	5,535	5,535	5,535
R <sup>2</sup>	0.091	0.163	0.131	0.188
Kleibergen-Paap Wald F statistic	15.661	9.273	18.584	10.365
Set of control variables	Yes	Yes	Yes	Yes

*Notes:* Dependent variable is expected life satisfaction in five years on a 0 to 10 scale. See Table III for more information. \*  $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ .

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