

Krapf, Matthias; Chadi, Adrian

**Conference Paper**

## The Protestant Fiscal Ethic: Religious Confession and Euro Skepticism in Germany

Beiträge zur Jahrestagung des Vereins für Socialpolitik 2015: Ökonomische Entwicklung - Theorie und Politik - Session: Common Currencies, No. F11-V2

**Provided in Cooperation with:**

Verein für Socialpolitik / German Economic Association

*Suggested Citation:* Krapf, Matthias; Chadi, Adrian (2015) : The Protestant Fiscal Ethic: Religious Confession and Euro Skepticism in Germany, Beiträge zur Jahrestagung des Vereins für Socialpolitik 2015: Ökonomische Entwicklung - Theorie und Politik - Session: Common Currencies, No. F11-V2, ZBW - Deutsche Zentralbibliothek für Wirtschaftswissenschaften, Leibniz-Informationszentrum Wirtschaft

This Version is available at:

<https://hdl.handle.net/10419/112833>

**Standard-Nutzungsbedingungen:**

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

**Terms of use:**

*Documents in EconStor may be saved and copied for your personal and scholarly purposes.*

*You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.*

*If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.*

# The Protestant Fiscal Ethic: Religious Confession and Euro Skepticism in Germany\*

Adrian Chadi<sup>†</sup>      Matthias Krapf<sup>‡</sup>

September 2, 2015

## Abstract

During the European sovereign debt crisis, most countries that ran into fiscal trouble had Catholic majorities, whereas countries with Protestant majorities were able to avoid fiscal problems. We find that Christian-conservative members of the German parliament from constituencies with higher shares of Protestants were more likely to vote against a third bailout for Greece. Survey data show that views on the euro differ between German Protestants and Non-Protestants at the individual level, too. Among Protestants, concerns about the euro have, compared to Non-Protestants, increased during the crisis, and significantly reduce their subjective wellbeing only. We use the timing of survey interviews and news events in 2011 to account for the endogeneity of euro concerns. Emphasis on moral hazard concerns in Protestant theology may, thus, still shape economic preferences.

**Keywords:** Protestantism, euro crisis, subjective wellbeing, media coverage.

**JEL classification numbers:** E00, I31, L82, Z12.

---

\*We are grateful to Benito Arruñanda, Marius Brühlhart, Sam Butterick, Daniel Hamermesh, Niklas Potrafke, Dominic Rohner, Heinrich Ursprung, and Hans-Joachim Voth, as well as to participants of presentations in Lausanne, Aix-en-Provence, and Barcelona for helpful comments and suggestions.

<sup>†</sup>IAAEU–Universität Trier, Germany. Email: chadi@iaaeu.de.

<sup>‡</sup>Université de Lausanne, Switzerland. Email: matthias.krapf@unil.ch.

# 1 Introduction

Since the beginning of the sovereign debt crisis, Europe has been divided along religious lines. Many of the countries with huge fiscal problems have Catholic majorities, Greece is Christian Orthodox. Among the countries that have been doing better, the Netherlands has a Calvinist Protestant tradition, Finland is Lutheran Protestant, only Austria is mostly Catholic. Germany has traditionally been nearly evenly split between Lutherans and Catholics, which raises the question if Germans are divided along religious lines, too.<sup>1</sup>

To illustrate that religious denomination may matter for how Germans view the euro and support for countries with fiscal problems, we start with an analysis of the vote on a third bailout for Greece in the German parliament on August 19, 2015. While this proposal was supported by the German government, there was substantial opposition from within Chancellor Angela Merkel's own party Christian-conservative faction. In the end, 63 out of 311 CDU/CSU members of the German parliament (MPs) refused to follow Chancellor Merkel in supporting continued financial assistance for Greece. We show that voting against the third bailout was positively related to the share of Protestants in an MP's constituency, and negatively to the share of Catholics in an MP's constituency. Does religious background shape economic beliefs among the general public, too? To investigate the link between religion and attitudes towards the euro during the sovereign debt crisis in more detail, we use different data from the 2011 wave of the German household panel SOEP.

A recent literature emphasizes the role of individual experiences as determinants of economic views, preferences, and characteristics such as risk aversion (Malmendier and Nagel, 2011; Ehrmann and Tzamourani, 2012; Giuliano and Spilimbergo, 2014). But also events that happened hundreds of years ago are often transmitted across generations and may affect the behavior and preferences of current generations (Guiso, Sapienza, and Zingales, 2006, 2008; Nunn, 2009; Voigtländer and Voth, 2012). One important cultural determinant of economic outcomes and preferences is religion (Guiso, Sapienza, and Zingales, 2003; Barro and McCleary, 2005; Iannaccone and Berman, 2008; Renneboog and Spaenjers, 2012).

We contribute to this growing literature by presenting new evidence on the economic relevance of religion. We find that people's beliefs regarding the euro are connected to their religious denominations. Protestants who showed no skepticism towards the euro in 2003 have changed their views during the euro crisis. We substantiate our findings with evidence on people's subjective wellbeing. We use variation in media coverage prior to the time of the interview to show that subjective wellbeing of German Protestants is reduced

---

<sup>1</sup>The idea that religion, in particular cultural differences between Protestants and Non-Protestants, might play a role in the context of the euro crisis has been discussed before in various media outlets (Ankenbrand, 2013, 2014; Bowlby, 2012; Priluck, 2015).

by exogenous news related to the euro crisis, whereas the wellbeing of Non-Protestants remains largely unaffected.

Our results are in line with a vast literature documenting persistent cultural differences between Protestants and other religious groups, including Catholics. Religious people of all denominations are characterized by higher levels of trust. Gruber (2005) suggests that this effect of religion on trust may be causal. Germany is of particular interest for us because it has both Protestant and Catholic areas and because of its role as a creditor during the euro crisis. Cantoni (2015) finds no effect of the Protestant Reformation on economic growth in Germany. Traunmüller (2009, 2010) shows that, while religious people in Germany generally are more socially active, Protestants are most engaged in their civic communities.<sup>2</sup>

It has long been known that Protestants were doing better economically than Catholics until the early 20th century, not only across countries but also within Germany and, more narrowly, within Prussia. Weber (1904) coined the ‘Protestant work ethic’ hypothesis as an explanation, according to which Protestants were more hard-working than Catholics. Becker and Woessmann (2009) provide evidence that literacy rates were higher among Protestants in 19th century Prussia. In contrast to Catholics, Protestants were supposed to be able to read the Bible, which fostered investments into human capital. Arruñada (2010) shows evidence that Protestants do not generally work harder than Catholics but have different social values that facilitate economic activity. La Porta, Lopez-de Silanes, Shleifer, and Vishny (1997) find that trust is lower in Catholic countries. We add to this literature by showing that Protestantism’s emphasis on adherence to rules and avoidance of moral hazard problems may have played a role during the euro crisis.

To understand the background of the euro crisis, recall that the European Monetary Union required a harmonization of fiscal policies among the member states. During the European sovereign debt crisis, substantial fiscal deficits and a sharp increase in interest rates on sovereign bonds of a number of member states necessitated readjustments of both monetary and fiscal policy. The criteria of the Maastricht Treaty, which should have helped to avoid this situation, proved largely ineffective. Whether to follow pre-defined rules for monetary policies has been debated at least since the introduction of the gold standard (Kydland and Prescott, 1977; Fischer, 1990). German central bankers have traditionally been putting more emphasis on rules than central bankers from other countries (Berger and de Haan, 1999; Hayo and Hofmann, 2006). The Germans’ affection for rules may have helped them avoid getting into fiscal trouble in the first place.<sup>3</sup> Under specific

---

<sup>2</sup>Filistrucchi and Prüfer (2013) find organizational differences between Protestant and Catholic hospitals in Germany that are in line with the two denominations’ theological foundations.

<sup>3</sup>Germany’s economy was referred to as “the sick man of Europe” at the turn of the millennium, and improved significantly over the decade that followed (Dustmann, Fitzenberger, Schönberg, and Spitz-Oener, 2014). The German government deficit has exceeded the 3 percent allowed by the Maastricht Treaty between 2003

assumptions, reputation building can help overcome problems related to commitment to rules. However, as pointed out by Bulow and Rogoff (1989), these assumptions are not likely to hold for loans to countries. Such lending must be supported by direct sanctions available to creditors.

How should policy makers react to breaches of fiscal rules, and what incentives will these reactions set for the future? Will a government whose debt was relieved once become more likely to accumulate debt in the future, believing that it will be relieved again? Or will this make it harder for them to borrow in the first place? Putting aside effects on the German economy and government budget, debt reductions imposed by, among others, German politicians on other euro member states may have helped these states regain access to bond markets (Born, Müller, and Pfeifer, 2015). But austerity may have the potential to provoke social unrest (Ponticelli and Voth, 2011), and it may have been more costly given that it occurred during a recession (Alesina, Barbiero, Favero, Giavazzi, and Paradisi, 2015).

Religious denomination may shape how German voters believe sanctioning fiscal deficits will affect future behavior. Besides establishing a link between the voting behavior of Christian-conservative MPs on a third Greek bailout and the religious composition of their constituencies in this paper, we show that German Protestants differ from Non-Protestants including Catholics in how they perceived the euro would affect the economy and their lives. Sections 2 and 3 describe our empirical approach. Among others, we use data from the German Socio-Economic Panel (SOEP) and exploit the fact that interviews for the SOEP's 2011 wave were conducted over the course of several months during which news about the euro crisis fluctuated substantially. Our results in Section 4 show that Protestants, while they were less concerned about the euro than Non-Protestants in 2003, had become more concerned by 2011. Also, we find a negative causal effect of euro concerns on subjective wellbeing among Protestants only. In Section 5, we provide an explanation for these empirical results, according to which Protestantism may be favorable to the belief that not sanctioning fiscal deficits may foster moral hazard. Section 6 concludes.

---

and 2006, and, again in 2010 and 2011. A failure of the European Council to sanction Germany's and France's breaches of the 3 percent criterion may have led to an increase in fiscal deficits in other euro member states (Baskaran and Hessami, 2013). During the euro crisis, however, markets considered German debt a 'safe haven,' which led to a decrease in German bond yields.

## 2 Data

### 2.1 Samples

We start with an analysis of self-collected data of votes of the ruling Christian-conservative CDU and CSU parties on a third bailout for Greece in the German parliament, the Bundestag, on August 19, 2015. We complement these with data on the religious composition of the MPs' constituencies from the 2011 German census. There are two ways to get elected into the German parliament: either through a simple majority in an electoral district, or through party tickets in the 16 federal states. Due to variations in sizes of population, the electoral districts do not coincide with Germany's administrative districts, for which the 2011 census provides shares of religious denominations. The electoral districts' names are, however, combinations of the names of the administrative districts they are composed of. To merge both data sets, we use those administrative districts, which appear first in the names of the electoral districts. For MPs who were elected into the parliament on party tickets, we use the administrative district, which their town of residence is located in.

The literature on economic preferences and beliefs relies strongly on data from social surveys, such as the General Social Survey or the World Values Survey. Our research objectives require us to have information on both religious denomination and people's views on the euro currency, which limits the set of possible alternatives. In our empirical analysis, we will first inspect people's overall attitudes with evidence from the European Values Survey (EVS). The main focus of our paper is then on data from Europe's largest household panel SOEP, which allows for an investigation of the link between religious affiliations and attitudes towards the euro in Germany before and during the euro crisis.

The German Socio-Economic Panel (SOEP) is a representative panel survey of the German population (Wagner, Frick, and Schupp, 2007; SOEP, 2013). In principle, data collection takes place throughout the whole year, with the majority of interviews taking place between late winter and early summer of each year. The SOEP applies a multi-mode strategy, so that respondents can fill out survey questionnaires on their own or can be interviewed in person by an interviewer.

### 2.2 Variables of interest

As the key prerequisite for our study on the role of religion, the SOEP contains information on people's religious denomination in some of the annual questionnaires. For the years 2003 and 2011, which we use in this study, this information is available.<sup>4</sup> We

---

<sup>4</sup>The exact question wording is: "Do you belong to a church or religious community? If yes, are you [Catholic, Protestant, etc.]" The procedure differs from the one in the EVS where people are first asked a simple yes or no question for religion and can then skip a battery of options. In the EVS, the share of

use 2003 because it was the last wave before the outbreak of the euro crisis, in which SOEP participants were asked about their views regarding the euro. Previous research on attitudes towards the euro currency focuses on the time of the new currency's introduction (e.g. Luna-Arocas, Guzman, Quintanilla, and Farhangmehr, 2001). The topic has received less attention in subsequent years. After the breakout of the euro crisis, however, the SOEP re-integrated the question whether people are concerned about the euro in 2011.

To capture attitudes, each annual SOEP questionnaire contains a large block of questions that begins with: "What is your attitude towards the following areas—are you concerned about them?" Respondents can choose between three possible answers: "Very concerned," "Somewhat concerned," and "Not concerned at all." The list of topics includes various social and economic issues. During the time of the euro implementation, and again in 2011, respondents were asked whether they were concerned about the "introduction of the euro in place of the Deutsche mark." In line with the literature (e.g. Goebel, Krekel, Tiefenbach, and Ziebarth, 2015), we use a dummy indicator for whether respondents say they are "very concerned" to measure euro concerns. Chadi (2015) uses these responses from the 2011 wave to investigate whether strong concerns about the euro matter for people's overall satisfaction with life. Chadi shows that euro skepticism is a causal determinant of lower subjective wellbeing for a minority of very concerned German citizens and their relative unhappiness helps predict subsequent election results.

To measure subjective wellbeing, we use the answers to the question "How satisfied are you with your life, all things considered?" The survey respondents have the choice between eleven answers on a scale ranging from 0 ("completely dissatisfied") to 10 ("completely satisfied"). For ease of interpretation this variable is commonly interpreted linearly in empirical research on wellbeing (see Ferrer-i Carbonell and Frijters, 2004). Appendix Table A.2 shows detailed descriptive statistics for Protestants, Non-Protestants, and Catholics as a subset of Non-Protestants separately.

Recent research shows adverse effects of the financial and banking crises on the happiness of Americans (Deaton, 2012) and Europeans (Montagnoli and Moro, 2014). While, for example, during the financial crisis of 2008/09, unemployment went up and incomes went down, the German economy did relatively well during the euro crisis in 2011 (Dustmann, Fitzenberger, Schönberg, and Spitz-Oener, 2014). The euro crisis led to increased uncertainty about future economic conditions and fiscal transfers towards Greece and Portugal, but low interest rates and capital inflows from struggling economies in the euro zone helped the German economy recover from the financial crisis. In contrast to the financial crisis, the euro crisis had only a perceived rather than an actual adverse effect on the German population at large.

---

respondents who refer to themselves as nondenominational is higher, but still more than half of them report a religious denomination.

## 2.3 Individual and regional control variables in the SOEP

Personal circumstances may affect both, whether somebody expresses concerns about the euro, and subjective wellbeing. The SOEP data, in particular, allows us to control for a broad range of individual background characteristics. We include, among others, measures of educational attainment, of housing quality, of personal income, and of occupational as well as marital status. Descriptive statistics for the EVS sample can be found in Appendix Table A.1, whereas for the SOEP sample, they can be found in Table A.2.

Being concerned about the euro may be related the economic structure of the region which respondents live in. We control for federal states, which may already help us get rid of most of the bias due to differential regional distributions of Protestants and Catholics and of economic conditions within Germany. There may, however, still be variation within federal states. We, therefore, complemented the SOEP with measures of regional economic conditions at a finer level of 96 different regions.<sup>5</sup> There are, essentially, two channels through which the euro crisis may differentially affect different German regions.

On the one hand, exposure to risks related to a potential implosion of the euro zone may vary across regions. To capture these risks, we control for regional exports normalized by number of employees and for regional GDP. On the other hand, the enduring crisis in the struggling euro member countries has induced inflows of labor and capital into Germany. Different regions may have been differentially affected by these inflows. We make use of three stock variables (the share of foreigners in the regional population, the local unemployment rate, and the regional unemployment rate among foreigners only) available to use as proxies for migration and its impact on the local economy. Capital inflows are most likely to have differential regional impacts through construction activity. To be sure, we do not know if recent construction activity was due to investments from foreigners. But we use information on recently issued construction permits and newly constructed apartments relative to the number of population, as well as the share of newly constructed apartments among all existing apartments in a region.

## 3 Identification

Religious denomination is, in the vast majority of all cases, exogenously determined by the family into which one is born. The Peace of Augsburg in 1555 is the most important historical event that determined the distribution of Catholics and Protestants in Germany

---

<sup>5</sup>We have 96 regional identifiers for SOEP respondents. We did not include fixed effects for these regions because there were no Protestants or Catholics in some regions. We therefore merged the SOEP with data on regional economic conditions for these 96 regions from the INKAR data provided by the Federal Institute for Research on Building, Urban Affairs and Spatial Development (Bundesinstitut für Bau-, Stadt- und Raumforschung BBSR).

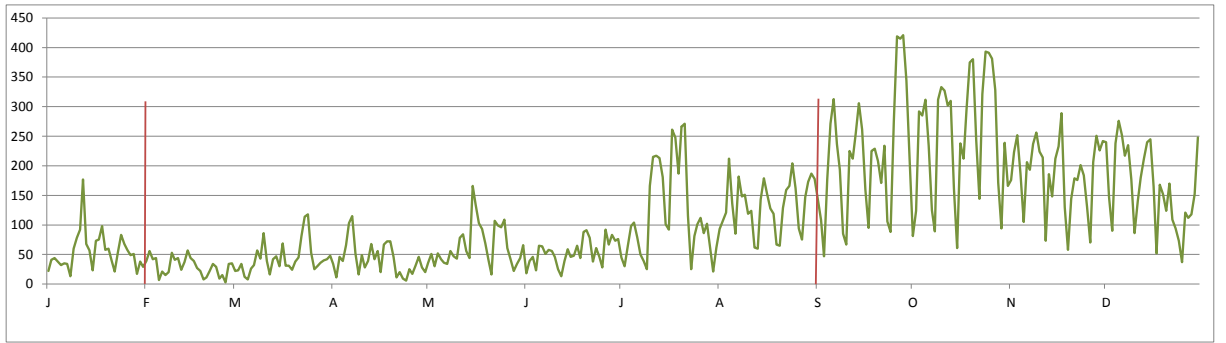


Figure 1: FREQUENCY OF THE TERM ‘EURO CRISIS’ IN MEDIA REPORTS IN 2011.

until today. This religious peace treaty gave territorial lords the right to choose their state’s official denomination, which then had to be adopted by the entire population living in their domain.<sup>6</sup> Cantoni (2012) shows that distance to Wittenberg, where Luther taught, is a major determinant of the adoption of Protestantism. The lords’ choice may have been correlated with social attitudes in their territories, which might also have been transmitted across generations, which would then call into question the causal primacy of Protestantism. But even if this were the case, it would not substantially affect the interpretation of our results. We would then measure an effect of cultural traits of Protestants that are reflected in Protestant theology, as we will discuss in Section 5.

Concerns about the euro crisis, on the other hand, may be due to a general sentiment of dissatisfaction with life. However, the number of events related to the euro crisis, and thus its media coverage, varied over the year 2011. To the extent to which the survey respondents’ stated concerns about the euro were related to the timing of media coverage of the euro crisis, reverse causality is not likely an issue. We, therefore, make use of the instrument ‘media coverage of the term euro crisis,’ which was first proposed and applied in Chadi (2015). We argue that the decision to do the survey on a specific date is not related to any political development at the time of the interview. Appendix Table A.3 shows the shares of respondents of different denominations in the SOEP across different months in 2011.<sup>7</sup> The use of this instrument makes our paper part of an emerging literature that exploits interview dates as a source of exogenous variation (Metcalf, Powdthavee, and Dolan, 2011; Goebel, Krekel, Tiefenbach, and Ziebarth, 2015; Schüller, 2012).

Daily-level data on media coverage of the euro crisis for the year 2011 was retrieved

<sup>6</sup>Spenkuch and Tillmann (2015) use the resulting religious borders in 1555 to instrument for the regional distribution of Catholics and Protestants in Germany in 1933. They examine the effects of religious denomination on the results of the election that brought the Nazis into power.

<sup>7</sup>To verify that Protestants were not disproportionately surveyed after news events, we regressed our measure of news about the euro crisis on daily and weekly shares of Protestants in the survey. We did not find a statistically significant correlation.

from *LexisNexis*. Chadi (2015) contains more detailed information on the use of number of media citations of the term “euro crisis” (*Eurokrise* or *Euro-Krise* in German) as an instrument. He shows that this instrument works best if one takes the aggregate number of media reports mentioning the term euro crisis over the day of the interview plus the preceding three days. Furthermore, the euro crisis unfolded gradually, and the use of the term euro crisis in the media increased throughout the year, as can be seen in Figure 1.

Following Chadi (2015), we corrected the instrument for a linear trend for two reasons. First, people probably got used to media coverage of the euro crisis, so that the same event affected people differently at different points in time. Second, the more “euro crisis” became an established term among media people, the more it may have been used and referred to, independently of actual events and economic developments. For our IV analysis, we use data from the time between February 1 and August 31, during which the vast majority of SOEP interviews took place. We dropped 5 interviews that took place in January and 66 interviews that took place between September and December and use this seven-month period as our period of investigation. The vertical lines in Figure 1 indicate the beginning and the end of our observation period.

Finally, interview mode may affect honesty of respondents when answering questions about both, dependent and explanatory variables. Respondents are less likely to report dissatisfaction with life in oral interviews Conti and Pudney (2011) and less likely to report disapproval of politically sensitive issues like immigration (Wagner and Schraepfer, 2001; Janus, 2010). Chadi (2015) examines the question of survey mode in our context in more detail. In the following, we will focus on data from all self-written interview modes (and exclude oral interviews). We show results for the unrestricted sample in the Appendix.<sup>8</sup>

## 4 Empirical results

### 4.1 CDU/CSU votes on a third bailout for Greece

On August 19, 2015, the German parliament, the Bundestag, voted on whether Germany should support a third bailout for Greece. This third bailout was considered necessary to recapitalize Greek banks and to keep Greece in the euro zone. The proposal was supported by the German government. After tensions with the Greek government, opposition from within Chancellor Angela Merkel’s own party, the Christian-conservative CDU and

---

<sup>8</sup>For the survey dates, we rely on dates specified by the respondents on the survey forms. We exclude surveys, during which interviewers were present all the time. Chadi (2015) uses an even stricter rule and excludes all surveys during which interviewer and participant met in person.

Table 1: DESCRIPTIVE STATISTICS CSU VOTES ON GREECE ON AUGUST 19, 2015.

Region	CSU MPs	voted NO	voted YES	Protestants	Catholics
Franconia	18	8(44.4%)	7(38.9%)	35.7%	42.9%
Swabia & Old Bavaria	38	4(10.5%)	29(76.3%)	13.5%	60.4%
Bavaria	56	12(21.4%)	36(64.3%)	20.7%	54.7%

*Notes:* The numbers in the left-hand panel relate to the vote on a third bailout for Greece, August 19, 2015. Relative numbers do not add up to 100% because some MPs abstained from the vote. The right-hand panel shows shares of Protestants and Catholics in the population in the respective areas according to the 2011 census.

its Bavarian sister party CSU, had increased prior to the vote.<sup>9</sup> Together, the CDU and the CSU form the majority in a grand coalition with the social democrat party, SPD. Ultimately, 63 out of 311 CDU/CSU members of parliament (MPs) voted against the bailout. We focus on the CDU/CSU for two reasons. First, because most MPs of all other parties in the parliament voted in accordance with their parties, there were very few dissenters outside the CDU/CSU faction. Second, the CDU and the CSU still highlight Christian values more than other parties in the German parliament.<sup>10</sup>

Let us first take a look at the voting behavior of the MPs of the Bavarian CSU. Bavaria can be divided into Swabia and Old Bavaria (Schwaben and Altbayern) on the one hand, which have vast Catholic majorities, and Franconia (Franken) on the other hand, which has, traditionally, been half Catholic-half Protestant. Table 1 shows that, indeed, CSU MPs from Franconia were more likely to vote against a third bailout for Greece, and less likely to vote in favor than CSU MPs from Swabia and Old Bavaria. The table also includes the relative shares of Protestants and Catholics in the Franconian as well as the Swabian and Old Bavarian populations, respectively, according to the 2011 census. To be sure, the simple averages we present may obscure a lot of information, the correlation between voting behavior of the CSU MPs and the religious composition of the populations in the different parts of Bavaria they represent may, however, not be spurious.

While the share of votes against the third bailout among the Bavarian CSU MPs was in line with the share of no votes among all CDU/CSU MPs, the correlation between Protestantism and voting ‘No’ is not everywhere as strong as in Bavaria. But, as our analysis in the manner of Mian, Sufi, and Trebbi (2010) in Table 2 shows, the correlation persists. In a linear probability model, we regress a dummy indicator for voting against the bailout

<sup>9</sup>For more details on this vote, which has received substantial attention in national and international media, see e.g. <http://www.bbc.com/news/world-europe-33975028>.

<sup>10</sup>The CDU and CSU are the biggest conservative parties in Germany. In our context, it is noteworthy that the CDU and CSU are the successors of parties called Zentrum and BVP, which have represented the Catholic minority in Germany until 1933. Nowadays, the parties do not cater to one particular denomination anymore.

Table 2: LPM REGRESSION OF ALL CDU/CSU VOTES.

	(1)	(2)	(3)	(4)	(5)
Share Protestants in constituency	0.679*** (0.221)	1.045*** (0.296)			0.878** (0.433)
Share Catholics in constituency			-0.591*** (0.169)	-0.776*** (0.227)	-0.194 (0.292)
Female	-0.100** (0.045)	-0.089* (0.045)	-0.105** (0.045)	-0.099** (0.045)	-0.091** (0.045)
Age/10	-0.213 (0.190)	-0.213 (0.189)	-0.171 (0.187)	-0.166 (0.187)	-0.191 (0.188)
(Age/10) squared	0.018 (0.018)	0.018 (0.018)	0.014 (0.018)	0.014 (0.018)	0.016 (0.018)
Elected directly	0.148*** (0.049)	0.321*** (0.096)	0.149*** (0.051)	0.076 (0.049)	0.488** (0.204)
Direct $\times$ Protestants		-0.490* (0.290)			-0.734* (0.414)
Direct $\times$ Catholics				0.225 (0.199)	-0.233 (0.256)
Federal state dummies	yes	yes	yes	yes	yes
R <sup>2</sup>	0.155	0.162	0.158	0.160	0.169
Observations	311	311	311	311	311

*Notes:* Dependent variable is equal to one for MPs who voted against the third bailout. Estimates are from a linear probability model. Robust standard errors are in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

on the shares of people of different religious denominations in the MPs' constituencies, on a dummy indicator for whether the MP is a woman, on age divided by 10 as well as age divided by ten squared, and on dummies for the 16 federal states. Female MPs were between 9 and 10 percent less likely to vote against the bailout.

Column (1) shows that a ten-percentage point increase in the share of Protestants in a CDU/CSU MP's constituency would have increased the probability of them voting against the proposal by 6.8 percentage points, whereas column (3) shows that the share of Catholics, on the other hand, decreases the probability of a CDU/CSU MP voting against the bailout by 5.9 percentage points. We also find that directly elected MPs are significantly more likely to vote against the bailout than MPs who entered the Bundestag on their party's ticket. This is in line with previous research on deviant behavior in the Bundestag by Sieberer (2010). In our case, the effect of having been directly elected on dissent with one's party is, however, mitigated by the share of Protestants in one's constituency as shown in column (3).

The shares of Protestants and Catholics are naturally correlated because the sum of the Protestant and Catholic shares is relatively stable across districts within federal states. Hence, districts with more Protestants will usually have fewer Catholics. In column (5), we therefore include both denominations in our regression. While the coefficient on the share of Protestants decreases by about 16 percent and the coefficient on the share of Catholics decreases by about 75 percent, the difference between the two coefficients remains nearly unchanged compared to the coefficient on the share of Protestants in column (2). This implies that the share of Protestants in an MP's constituency is decisive, whereas the negative effect of Catholics comes largely from there being fewer Protestants in districts with more Catholics.

## **4.2 Attitudes towards the euro among Protestants before and during the crisis**

The 2008 European Values Study (EVS) allows for a comparison of social values among religious groups in Germany. This survey was conducted in 2008, at the beginning of the Great Recession and, thus, about two years before the European sovereign debt crisis broke out. About half of the respondents said they were not religious. These numbers reflect a well-documented long-term decline in religiosity in Germany, where church attendance rates are lower than in the U.S. (Iannaccone, 1998; Heineck, 2001). The EVS contains a number of items that relate to how respondents think the European Union will affect them, which allows us to link attitudes towards the E.U. to religious denomination. We also include a regression on how likely the respondents are to approve of tax fraud, as this is a question that has frequently been discussed in German media in relation to the euro crisis.

Table 3: EVS–ORDERED PROBIT ESTIMATES.

	EU-related fears				
	(1)	(2)	(3)	(4)	(5)
	justify tax fraud	loss soc secur	loss nat cult	own ctry pays	loss of jobs
Protestant	-0.233*** (0.071)	-0.013 (0.063)	-0.134** (0.064)	-0.071 (0.064)	0.033 (0.065)
Muslim	-0.182 (0.223)	0.040 (0.189)	-0.080 (0.151)	-0.100 (0.195)	-0.024 (0.227)
Other rel.	-0.440** (0.180)	-0.179 (0.175)	-0.337** (0.168)	-0.184 (0.158)	-0.080 (0.159)
No rel.	-0.346*** (0.064)	0.161*** (0.060)	-0.329*** (0.061)	-0.004 (0.060)	0.107* (0.060)
Controls	yes	yes	yes	yes	yes
Pseudo-R2	0.019	0.008	0.007	0.006	0.011
Observations	2036	2002	2015	1991	2017

Notes: Robust standard errors are in parentheses; \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Table 3 presents estimates based on this survey.<sup>11</sup> The table includes dummies for whether respondents are Protestants, Muslims, belong to a different religious denomination or none at all; Catholic denomination is the left-out baseline category. In line with Arruñada (2010), the Catholic baseline group is significantly more likely to view tax fraud as morally justifiable than the other groups. As can be seen in column (4), German Protestants were not more likely than other religious groups to think that their own country had to pay for other EU members. Answers to the other questions also suggest that in 2008, Protestants were not more or less critical of the European Union than members of other religious groups. In 2008, Protestants differed from Catholics only in their views towards tax fraud and in how they thought the European Union would affect their national culture. At a first glance, Table 3 appears not to lend much support to the central hypothesis of our paper.

Table 4, however, shows that the opinion of Protestants has changed significantly as the euro crisis unfolded. In 2003, when Germany still had trouble meeting the Maastricht criteria itself, Protestants were actually less likely to report concerns about the common European currency. In 2011, this was different. Columns (1) and (4) compare the exact same individuals in these two years. In this restricted sample, there is no significant difference between Catholic and Protestants left in 2011. If we look at the full samples in columns (2) and (5), or at samples that include only respondents with religious denomination in columns (3) and (6), the picture becomes even stronger: the Protestant dummy becomes statistically significant, again, but with the opposite, positive sign compared to

<sup>11</sup> Appendix A shows results for control variables in Table A.4.

2003. In 2011, Protestants are, conditional on covariates including personal background and regional economic conditions, even more critical of the euro than Catholics. This change in a typically rather stable economic belief raises the question if different views on the euro among Protestants and Catholics differentially affected subjective wellbeing, too.

Table 5 shows results of regressions of subjective wellbeing on concerns about the euro, on religious denomination, and on interaction terms between these variables. Across all years and all samples, concerns about the euro are negatively correlated with subjective wellbeing. This is true for members of all different religious groups. In 2011, however, this negative correlation suddenly becomes much stronger among Protestants than among members of all other religious groups. This is true both, if we look at balanced sample of individuals who responded to both surveys in 2003 and 2011 only, and if we include all 2011 respondents in the sample. All other religious groups do not differ from each other in ways that are statistically significant, even though the coefficients are often as large as those on the Protestant dummy.

The estimates in Table 5 do not necessarily reflect causal relationships. It could be that Protestants have become less happy between 2003 and 2011, and that the increased concerns about the euro are a mere reflection of their reduced subjective well being. Using the media coverage instrument outlined in Section 3, however, we will next show that Protestants are actually more sensitive to news about the euro crisis. We demonstrate that concerns about the euro causally reduce the subjective wellbeing of Protestants, but not that of members of other religious denomination.<sup>12</sup>

### 4.3 The effect of euro concerns on subjective wellbeing

The upper panel of Table 6 shows reduced form estimates for our model.<sup>13</sup> We regress subjective wellbeing on the measure of media reports on the euro crisis during the days before the interview, which we outlined in Section 3. We observe a significant negative effect of our exogenous instrument on subjective wellbeing among Protestants, but not among Non-Protestants and among Catholics as a subset of the Non-Protestants. The effect among Protestants is strong enough to produce a significant relationship between the exogenous instrument and subjective wellbeing in the full sample. We have now established a link between the exogenous event media reports on the euro crisis and subjective wellbeing among Protestants. But were those respondents whose subjective wellbeing

---

<sup>12</sup>The set of controls used in the regressions in this section includes measures of the Big Five personality traits, which are often used in this literature to address identification issues. In the following Section 4.3 we will not include the Big Five personality traits. Our results, however, are robust to their inclusion.

<sup>13</sup>In contrast to Section 4.2, we now exclude all face-to-face interviews. Results for the full sample can be found in Appendix Tables A.6 and A.7.

Table 4: RELIGIOUS DENOMINATION AND EURO CONCERNS.

	(1)	(2)	(3)	(4)	(5)	(6)
Year:	2003	2003	2003	2011	2011	2011
Sample restriction:	Balanced with 2011	Full sample for 2003	Only individuals with denomination	Balanced with 2003	Full sample for 2011	Only individuals with denomination
Protestant	-0.032** (0.015)	-0.034** (0.013)	-0.032** (0.013)	0.004 (0.016)	0.023* (0.014)	0.032** (0.014)
Other religion	0.002 (0.035)	-0.019 (0.032)	-0.027 (0.032)	0.001 (0.033)	0.028 (0.030)	0.030 (0.031)
No denomination	-0.025 (0.018)	-0.038** (0.015)		-0.006 (0.018)	0.023 (0.015)	
Observations	9,182	12,061	8,119	9,182	12,518	8,227
R <sup>2</sup>	0.088	0.082	0.100	0.096	0.096	0.109

*Notes:* Estimates are from a linear probability model. Dependent variable is being very concerned about the euro. Reference category for religious affiliation is Catholic. Set of controls includes variables for gender, migration background (number of variables is 2), age (3), nationality (4), 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), years in the panel (26), and interview mode (5), as well as regional variables (8). Also included are the Big Five personality factors with a set of 10 binary variables for high and low extraversion, agreeableness, conscientiousness, neuroticism, and openness. Robust standard errors are in parentheses. Survey weights are used. SOEP data from 2003 respectively 2011 (with Big Five measures from 2009) are used. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Table 5: SUBJECTIVE WELLBEING AS DEPENDENT VARIABLE AND CONCERNED ABOUT THE EURO.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Year:	2003	2003	2003	2011	2011	2011	2011	2011
Sample restriction:	Balanced with 2011			Balanced with 2003			Main sample	
Protestant	0.033 (0.059)	0.052 (0.062)	0.049 (0.063)	-0.012 (0.065)	0.065 (0.067)	0.061 (0.069)	-0.057 (0.056)	-0.055 (0.058)
Other religion	-0.195 (0.166)	-0.195 (0.166)	-0.227 (0.185)	-0.218 (0.160)	-0.214 (0.160)	-0.265 (0.170)	-0.202 (0.136)	-0.254* (0.146)
No denomination	-0.133* (0.071)	-0.134* (0.071)	-0.135* (0.073)	-0.068 (0.075)	-0.067 (0.075)	-0.062 (0.078)	-0.121* (0.065)	-0.105 (0.069)
Concerned about the euro	-0.427*** (0.060)	-0.396*** (0.072)	-0.410*** (0.113)	-0.374*** (0.066)	-0.261*** (0.078)	-0.272** (0.122)	-0.210*** (0.066)	-0.193* (0.101)
Protestant × euro concerns		-0.097 (0.129)	-0.083 (0.156)		-0.362*** (0.136)	-0.351** (0.167)	-0.283** (0.119)	-0.301** (0.142)
Other rel. × euro concerns			0.144 (0.279)			0.274 (0.297)		0.268 (0.249)
No conf. × euro concerns			0.007 (0.154)			-0.025 (0.162)		-0.081 (0.137)
Observations	9,182	9,182	9,182	9,182	9,182	9,182	12,518	12,518
R <sup>2</sup>	0.232	0.232	0.232	0.241	0.243	0.243	0.226	0.226

Notes: Dependent variable is wellbeing on a 0 to 10 scale. Reference category for religious affiliation is Catholic. See Table 4 for the controls. Robust standard errors are in parentheses. Survey weights are used. SOEP data from 2003 respectively from 2011 (with Big Five measures from 2009) are used. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Table 6: REDUCED FORM AND FIRST STAGE ESTIMATION RESULTS.

	(1)	(2)	(3)	(4)
	Protestants	Non-Protestants	Catholics	full sample
Reduced form estimates: subjective wellbeing and news				
News	-0.551** (0.233)	-0.124 (0.156)	-0.194 (0.197)	-0.309** (0.133)
Controls	yes	yes	yes	yes
Observations	2,071	4,365	1,705	6,436
R <sup>2</sup>	0.233	0.220	0.260	0.199
First stage: concerns about the euro and news				
News	0.195*** (0.056)	0.128*** (0.045)	0.161** (0.067)	0.155*** (0.037)
Controls	yes	yes	yes	yes
Observations	2,071	4,365	1,705	6,436
R <sup>2</sup>	0.222	0.122	0.194	0.125
F-Test on instrument	12.096	8.207	5.725	17.496

*Notes:* Dependent variable in upper panel is wellbeing on a 0 to 10 scale. Dependent variable in lower panel is being very concerned about the euro. Control variables are same as in Table 4, except for Big Five personality measures, which are not included. Robust standard errors are in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

was reduced by these news actually concerned about the fate of the joint currency, or was something else going on?

The lower panel of Table 6 shows estimation results for the first-stage regressions of the IV procedure. We observe that media reports on the euro crisis led to increased concerns about the euro in all subgroups. The F-statistics in columns (1) and (4) are greater than 10 and, thus, in line with the rule of thumb for one endogenous regressor (Staiger and Stock, 1997).<sup>14</sup> Despite significantly positive coefficients, the instrument is weak for Non-Protestants and Catholics only.

Table 7 shows results for the second stage of our IV procedure in the odd-numbered columns along with corresponding OLS estimates of the effect of euro concerns on subjective wellbeing. While, according to levels of significance, Protestants did not stand out as being different in the first stage, they are the only group, for which we can observe a causal effect of euro concerns on subjective wellbeing. While among the Non-Protestants and Catholics only, the IV estimates are negative and larger in magnitude than the OLS

<sup>14</sup>Given the number of control variables, there may, however, still be size distortions (Stock and Yogo, 2005). We will, therefore, closely compare the estimates of the second stage with results of OLS regressions. For the regression output for the full model with regression coefficients for all control variables in column (4), see Appendix Table A.5.

Table 7: SECOND STAGE: SUBJECTIVE WELLBEING EXPLAINED BY INSTRUMENTED CONCERNS ABOUT THE EURO.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Protestants		Non-Protestants		Catholics		all denominations	
	IV	OLS	IV	OLS	IV	OLS	IV	OLS
No interviewer present								
Euro concerns	-2.827**	-0.726***	-0.970	-0.343***	-1.205	-0.452***	-1.997**	-0.463***
	(1.250)	(0.152)	(1.220)	(0.098)	(1.223)	(0.145)	(0.892)	(0.084)
Controls	yes	yes	yes	yes	yes	yes	yes	yes
Observations	2,071	2,071	4,365	4,365	1,705	1,705	6,436	6,436
R <sup>2</sup>	0.070	0.251	0.207	0.223	0.243	0.269	0.099	0.204

*Notes:* Dependent variable is wellbeing on a 0 to 10 scale. Control variables are same as in Table 4, except for Big Five personality measures, which are not included. Robust standard errors are in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

estimates, they are not statistically significant.<sup>15</sup> In the combined sample of all denominations, we observe an effect that is negative and statistically significant. However, this effect appears to be entirely driven by the Protestants in our sample.

Chadi (2015) emphasizes the importance of different survey modes. Respondents may answer the potentially sensitive question if they are concerned about the euro more honestly when no interviewer is present to record their responses. We, therefore, exclude all observations for which an interviewer was present all the time. The remaining sample consists primarily of surveys that were submitted by mail or that were later picked up by interviewers who were not present while respondents answered the surveys. Results in Table A.6 show that the relationship between subjective wellbeing and euro concerns on the one hand, and frequency of the term ‘euro crisis’ in the news, indeed, becomes weaker but does not disappear if we include personal interviews. Results in Table A.7 show that the causal effect of news on the euro crisis becomes smaller if we include interviews with interviewer presence but remains statistically significant at the 10% level.

If we look at the simple OLS estimates in columns (2), (4), (6) and (8), we observe a negative relationship between euro concerns and subjective wellbeing among all different subgroups. Our IV results, however, suggest causal effects among Protestants only. Survey respondents of all religious denominations appear to be more likely to report that they are concerned about the euro if they were less satisfied with life in the first place. But among Protestants there are people who appear to actually react to news about the euro crisis.

In all subgroups, the IV coefficients are more negative than the OLS coefficients, reflecting the LATE property of IV estimation. Imbens and Angrist (1994) showed that IV estimation measures causal effects only for ‘compliers,’ i.e. for individuals for whom the instrumental variable affects the endogenous variable in the way desired by the researcher. Our compliers are those individuals who become more worried after reading news about the euro crisis. In this subset, the coefficient captures not only the negative correlation between euro concerns and subjective wellbeing, but also the negative news effects. The magnitude of the coefficient for Protestants in column (1) of -2.8 corresponds to one quarter of the entire scale from 0 to 10, and to 40 percent of the average wellbeing among Protestants of 6.89.

Why do news about the euro crisis reduce the subjective wellbeing of German Protestants, whereas others, including Catholics, appear to be more resilient towards such adverse macro shocks? The following Section 5, will discuss how history provides a likely

---

<sup>15</sup>One might argue that, while Catholics are more likely to attend church, Protestants may still be more able to read and have more exposure to news (Glaeser and Sacerdote, 2008). Indeed, Protestants still have more schooling on average than Catholics (0.3 years according to our data in Table A.2; 0.8 years according to Becker and Woessmann, 2009). But illiteracy is virtually non-existent in Germany and we control for educational outcomes.

explanation for our findings.

## 5 Protestantism and moral hazard

The sacrament of confession is one seven Catholic sacraments, whereby a believer confesses his sins to a priest, expresses regret and is absolved. It is obvious to an economist that confession allows for intertemporal substitution.<sup>16</sup> Protestants, on the other hand, believe they will be accountable for everything they did during their lives. In fact, the roots for Protestantism were laid when Martin Luther protested against a sixteenth-century practice of selling indulgences.<sup>17</sup> Thus, we argue that moral hazard considerations are more important to Protestants than to others, including Catholics. To be sure, fewer people nowadays self-identify as religious or are familiar with theological subtleties. Protestants may have been more different from Catholics in the past than they are now.<sup>18</sup> However, differences in economic views and social values persist. In particular, our results corroborate the notion that, in line with Lutheran teachings, Protestants care more about rules.

In the modern German language, which has been shaped by Luther's translation of the Bible, the word for debt—*Schuld*—is the same as for guilt or blame. In line with the view that Protestantism considers it a moral obligation to make up for debt, Stulz and Williamson (2003) find that predominantly Protestant countries offer more legal protection for creditors. Catholics, on the other hand, still appear more likely to consider creditors the immoral party in debt transactions, believing that one can get rid of debt, like guilt, through forgiveness.<sup>19</sup> Stulz and Williamson (2003) trace this back to a Catholic tradition, under which usury led to excommunication. They argue that in particular the Calvinist Reformation has played an essential role in the development towards making interest a normal part of commerce. They find that interest is still more widely accepted among Protestants than among Catholics.

---

<sup>16</sup>For a thorough economic analysis of the sacrament of confession, see Arruñada (2009). In this paper and in Arruñada (2010), he pointed out that cultural differences between Protestants and Catholics are due to different dealings with sin and guilt. In this context, note that the German word for denomination is *Konfession*.

<sup>17</sup>Indulgences are “remissions before God of the temporal punishment due to sins whose guilt has already been forgiven” according to the Catechism of the Catholic Church: [http://www.vatican.va/archive/ENG0015/\\_P4G.HTM](http://www.vatican.va/archive/ENG0015/_P4G.HTM).

<sup>18</sup>In our data, 0.3 years of difference in years of schooling between Protestants and Catholics persist (0.8 years in Becker and Woessmann, 2009), but Catholics do not appear to be poorer anymore. While Catholic Bavarians only reluctantly joined the first German nation state in 1871 after being bailed out by the Prussians (Ullrich, 1998), today Bavaria is among the more prosperous regions in Germany and provides fiscal transfers to other German states (Potrafke and Reischmann, 2015).

<sup>19</sup>Catholics maintain the Jewish tradition of ‘Jubilee’, whereby every 50 years debts are forgiven and special absolution is given. That language can affect economic behavior has also been shown by Chen (2013).

The medieval church acted as a monopoly supplier of salvation, which in the late middle ages culminated in the widespread practice of sales of offices and sales of indulgences (Ekelund, Hebert, and Tollison, 1989). Lutheran Protestantism emerged in opposition to sales of indulgences. Indeed, Luther's 95 theses written in 1517 were a direct response to a campaign by Dominican friar Johann Tetzel to collect money for the reconstruction of St. Peter's Basilica in Rome.<sup>20</sup> Luther condemned sales of indulgences as fraud, arguing that only God, and not the Pope could grant pardon (see Bornkamm and Ebeling, 1982, p. 261).

Martin Luther's moral code, which emphasized universal principles, is best illustrated by his conduct during the Diet of Worms in 1521. Confronting Catholic Emperor Charles V, Luther refused to recant his writings, allegedly saying: "Here I stand. I can do no other." Protestant ethics is based on uniform moral standards that apply to all individuals and across time. Martin Luther was not willing to give up his principles even under the threat of criminal prosecution. Catholic priests, on the other hand, have traditionally been trained to fine-tune moral standards following prescriptions devised by medieval theologians for different circumstances (Arruñada, 2010). Similarly, during the sovereign debt crisis, European leaders have repeatedly had to decide whether to apply homogeneous standards across countries. Bowlby (2012), among others, compares Angela Merkel's assertion that there is no alternative to austerity to the Luther quote cited above. Crucially, if these standards apply for all countries, they must not be changed across time either. Expectations that running unsustainable fiscal deficits will not be sanctioned may foster moral hazard.

Uniform moral standards may have contributed to the higher economic prosperity of Protestants. Our framework corroborates Stulz and Williamson's (2003) explanation as to why creditor protection is more developed in Protestant countries. Beyond the purely ethical dimension of the immorality of usury, creditor protection matters for the functioning of financial markets. Legal institutions prevent moral hazard and increase willingness to lend money to other people.

We are not the first to relate the European Union and the euro crisis to Germany's cultural history. Focusing on cross-country cultural differences, Guiso, Herrera, and Morelli (2014) present a model, in which some political leaders tend to forgive violations of fiscal rules, while others prefer to punish them. They conclude that this cultural diversity makes a fiscal union more desirable. Evidence from the European Social Survey supports the view that Germans are generally more in favor of punishing wrongdoers than Greeks are. The authors also quote from a conversation with Thomas Wieser, Chairman of the Economic and Financial Committee of the European Union. Wieser argues that policy

---

<sup>20</sup>The slogan "As soon as a coin in the coffer rings, a soul from purgatory springs." is often attributed to Tetzel. According to Ekelund, Hebert, and Tollison (1989), sales of offices accounted for nearly one sixth of ordinary papal income during the pontificate of Leo X (1513-1521).

makers' different approaches towards the euro crisis can be explained by the religion that is dominant in the country which they represent. Policy makers from Protestant countries tend to think that sins can never be forgiven, whereas policy makers from Catholic countries tend to think that sins can always be forgiven if sinners repent. The Orthodox religion, according to Wieser, is so loose that sinners will not even have to repent to be forgiven.

Dullien and Guérot (2012) link the focus on austerity and price stability to the German tradition of 'ordoliberalism,' which finds support across the political spectrum in Germany. Fratzscher (2014) traces the origins of Germans' affection for rules back to Kantian philosophy, which stresses the importance of legal institutions. Kantian philosophy may, however, itself be a Protestant phenomenon. And religious denomination continued to play a role. German integration into the European Union and into the European Monetary Union were initiated by Catholic Rhinelanders Konrad Adenauer and Helmut Kohl.<sup>21</sup> Angela Merkel, on the other hand, who has been German chancellor since 2005, is the daughter of a Protestant pastor from East Germany, while Joachim Gauck, Germany's president since 2012, is a former Protestant pastor from East Germany himself (Bowlby, 2012).

Just like the general public, professional economists also disagree on whether and how to support struggling economies during the European sovereign debt crisis. German economists published various signature lists supporting or opposing bailouts of struggling economies during the European sovereign debt crisis.<sup>22</sup> In early 2013, a group of academic economists was involved in the foundation of the political party *Alternative für Deutschland* (AfD), which is critical of the euro. Even among professional economists, there may have been a connection between religious and economic views.<sup>23</sup>

As an illustration, consider the Bible's parable of the prodigal son, in which a son returns home after years during which he wasted a fortune he had received from his family. The father welcomes the son and celebrates his return, which upsets his other son, who

<sup>21</sup>Political scientists have observed before that Catholics have been more supportive of European integration than Protestants not only in Germany, and that this may be related to 'confessional culture' (Vollaard, 2006; Nelsen and Guth, 2003).

<sup>22</sup>See, for example, <http://www.wiso.uni-hamburg.de/lucke/>, <https://berlinoeconomicus.diw.de/geldpolitik/> or <http://www.faz.net/aktuell/wirtschaft/oekonomen-aufruf-im-wortlaut-zur-europaeischen-bankenunion-11815081.html>.

<sup>23</sup>In line with our argument, Ankenbrand (2013, 2014) describes the AfD as deeply rooted in Protestant traditions. In Ankenbrand (2013), he quotes economics professor Bernd Lucke, who initiated the *Plenum der Ökonomen*, a list of signatures opposing support for struggling EMU member states, and later became chairman of the AfD, as claiming that "economics [was] not a matter of faith" (Ökonomie ist keine Glaubensfrage). Even though, like most economists, he presents himself as an objective expert, Lucke's economic preferences may, however, have been shaped by his personal background and experiences. Chadi (2015) examines the empirical link between unhappiness among euro-skeptics and AfD election results in detail.

has always worked hard and saved his money. The father explains that “[...] it was appropriate to celebrate and be glad, for this, your brother, was dead, and is alive again. He was lost, and is found” (Luke 15:17-20). Catholics have traditionally been more loyal towards their families than towards governments and legal institutions (Arruñada, 2010). Like the prodigal son’s father, German Catholics may be more lenient towards EMU member states that ran unsustainable deficits in the past. Group loyalty between German Catholics and Catholics abroad may reinforce this solidarity (Luttmer, 2001).

## 6 Conclusion

The euro crisis has produced a ‘religious fault line’ (Bowlby, 2012) between Catholic countries on the one hand, and Protestant countries on the other hand. Cultural differences between different religious denominations are a possible explanation for the euro crisis, and may also have shaped how policy makers responded to it. Germany has traditionally been half Protestant, half Catholic, which raises the question if Catholics and Protestants differ in how they responded to the euro crisis within Germany, too. We show that these attitudes, indeed, differ between Protestants and Non-Protestants, thus offering a novel explanation for the great variation in policy makers’ and the general population’s responses to the euro crisis.

In this paper, we first demonstrate that religious denomination matters for voting behavior in the context of the euro crisis. A higher share of Protestants in their constituencies tended to increase the probability of a Christian-conservative MP to vote against the bailout. We then show that German Protestants continue to have different social values than German Catholics: Catholics are still more likely to consider tax fraud, which was frequently discussed in the media in relation to the euro crisis, as morally justifiable. According to survey data from the German SOEP, Protestants were less concerned about the fate of the joint currency than Non-Protestants in 2003, when Germany was still not able to meet the Maastricht Treaty’s fiscal deficit criteria itself. By 2011, however, when the crisis was most severe, Protestants had become more concerned than Non-Protestants. We, furthermore, observe a negative association between euro concerns and subjective wellbeing in the whole population. In 2011, however, this negative association was stronger among Protestants than among Non-Protestants.

To obtain causal estimates of the effect of euro concerns on subjective wellbeing, we exploit exogenous variation in the timing of the interviews conducted for the SOEP in 2011. In the first-stage regressions, we find a positive correlation between news about the euro crisis during the days prior to the interviews and euro concerns across all religious denominations. Only among Protestants, however, is this correlation strong enough to justify the use of our instrument. In the second stage, we find a negative causal effect of

euro concerns on subjective wellbeing among Protestants, but not among Non-protestants. This effect among Protestants is statistically significant and of substantial magnitude.

Our findings are in line with Protestants being more sensitive towards moral hazard considerations. Long-term persistence of attitudes is, thus, not a thing of the past. Religious confession continues to shape our views of subjects like the euro, which, at first glance, have little relation to religion. While our work does not offer a new approach on how to address fiscal imbalances, it does, however, help to understand sensitivities during the euro crisis and suggests that such sensitivities may matter in other contexts, too.

## References

- ALESINA, A., O. BARBIERO, C. FAVERO, F. GIAVAZZI, AND M. PARADISI (2015): “Austerity in 2009-2013,” NBER Working Papers 20827, National Bureau of Economic Research, Inc.
- ANKENBRAND, H. (2013): “Der Protestant,” *Frankfurter Allgemeine Zeitung*, December 14, <http://www.faz.net/aktuell/wirtschaft/menschen-wirtschaft/bernd-lucke-der-protestant-12711334.html>.
- (2014): “Christliche Alternative für Deutschland,” *Frankfurter Allgemeine Zeitung*, March 10, <http://www.faz.net/aktuell/afd-kritisiert-rechte-von-schwulen-und-muslime-12837646.html>.
- ARRUÑADA, B. (2009): “Specialization and Rent-Seeking in Moral Enforcement: The Case of Confession,” *Journal for the Scientific Study of Religion*, 48(3), 443–461.
- (2010): “Protestants and Catholics: Similar Work Ethic, Different Social Ethic,” *Economic Journal*, 120(547), 890–918.
- BARRO, R. J., AND R. M. MCCLEARY (2005): “Which Countries Have State Religions?,” *The Quarterly Journal of Economics*, 120(4), 1331–1370.
- BASKARAN, T., AND Z. HESSAMI (2013): “Monetary Integration, Soft Budget Constraints, and the EMU Sovereign Debt Crises,” Working Paper 2013-03, Department of Economics, University of Konstanz.
- BECKER, S. O., AND L. WOESSMANN (2009): “Was Weber Wrong? A Human Capital Theory of Protestant Economic History,” *Quarterly Journal of Economics*, 124(2), 531–596.
- BERGER, H., AND J. DE HAAN (1999): “A State within the State? An Event Study on the Bundesbank (1948-1973),” *Scottish Journal of Political Economy, Scottish Economic Society*, 46(1), 17–39.

- BORN, B., G. MÜLLER, AND J. PFEIFER (2015): "Does austerity pay off?," CEPR Discussion Papers 10425, C.E.P.R. Discussion Papers.
- BORNKAMM, K., AND G. EBELING (1982): *Martin Luther. Ausgewählte Schriften*, vol. 2. Insel, Frankfurt.
- BOWLBY, C. (2012): "The eurozone's religious faultline," *BBC News Magazine*, July 19, <http://www.bbc.com/news/magazine-18789154>.
- BULOW, J., AND K. ROGOFF (1989): "Sovereign Debt: Is to Forgive to Forget?," *American Economic Review*, 79(1), 43–50.
- CANTONI, D. (2012): "Adopting a New Religion: the Case of Protestantism in 16th Century Germany," *Economic Journal*, 122(560), 502–531.
- (2015): "The economic effects of the Protestant Reformation: testing the Weber hypothesis in the German Lands," *Journal of the European Economic Association*, 13(4).
- CHADI, A. (2015): "Concerns about the Euro and Happiness in Germany during Times of Crisis," Discussion Paper 3/2015, IAAEU Trier.
- CHEN, M. K. (2013): "The Effect of Language on Economic Behavior: Evidence from Savings Rates, Health Behaviors, and Retirement Assets," *American Economic Review*, 103(2), 690–731.
- CONTI, G., AND S. PUDNEY (2011): "Survey design and the analysis of satisfaction," *Review of Economics and Statistics*, 93(3), 1087–1093.
- DEATON, A. (2012): "The financial crisis and the well-being of Americans," *Oxford Economic Papers*, 64(1), 1–26.
- DULLIEN, S., AND U. GUÉROT (2012): "The long shadow of ordoliberalism: Germany's approach to the euro crisis," *European Council on Foreign Relations Policy Brief*, 22.
- DUSTMANN, C., B. FITZENBERGER, U. SCHÖNBERG, AND A. SPITZ-OENER (2014): "From sick man of Europe to economic superstar: Germany's resurgent economy," *Journal of Economic Perspectives*, 28(1), 167–188.
- EHRMANN, M., AND P. TZAMOURANI (2012): "Memories of high inflation," *European Journal of Political Economy*, 28(2), 174–191.
- EKELUND, R. B. J., R. F. HEBERT, AND R. D. TOLLISON (1989): "An Economic Model of the Medieval Church: Usury as a Form of Rent Seeking," *Journal of Law, Economics and Organization*, 5(2), 307–31.

- FERRER-I CARBONELL, A., AND P. FRIJTERS (2004): “How Important is Methodology for the estimates of the determinants of Happiness?,” *Economic Journal*, 114(497), 641–659.
- FILISTRUCCHI, L., AND J. PRÜFER (2013): “Faithful Strategies : How Religion Shapes Nonprofit Management,” Discussion paper.
- FISCHER, S. (1990): “Rules versus discretion in monetary policy,” in *Handbook of Monetary Economics*, ed. by B. M. Friedman, and F. H. Hahn, vol. 2 of *Handbook of Monetary Economics*, Elsevier, chap. 21, pp. 1155–1184. Elsevier.
- FRATZSCHER, M. (2014): *Die Deutschland-Illusion*. Hanser Verlag.
- GIULIANO, P., AND A. SPILIMBERGO (2014): “Growing up in a Recession,” *Review of Economic Studies*, 81(2), 787–817.
- GLAESER, E. L., AND B. I. SACERDOTE (2008): “Education and Religion,” *Journal of Human Capital*, 2(2), 188–215.
- GOEBEL, J., C. KREKEL, T. TIEFENBACH, AND N. R. ZIEBARTH (2015): “How Natural Disasters Can Affect Environmental Concerns, Risk Aversion, and Even Politics: Evidence from Fukushima and Three European Countries,” *Journal of Population Economics*, (4), 1137–1180.
- GRUBER, J. H. (2005): “Religious Market Structure, Religious Participation, and Outcomes: Is Religion Good for You?,” *B.E. Journal of Economic Analysis & Policy*, (1), 1–32.
- GUIO, L., H. HERRERA, AND M. MORELLI (2014): “Cultural Differences and Institutional Integration,” Working paper, HEC Montreal.
- GUIO, L., P. SAPIENZA, AND L. ZINGALES (2003): “People’s opium? Religion and economic attitudes,” *Journal of Monetary Economics*, 50(1), 225–282.
- (2006): “Does Culture Affect Economic Outcomes?,” *Journal of Economic Perspectives*, 20(2), 23–48.
- (2008): “Long Term Persistence,” NBER Working Papers 14278, National Bureau of Economic Research, Inc.
- HAYO, B., AND B. HOFMANN (2006): “Comparing monetary policy reaction functions: ECB versus Bundesbank,” *Empirical Economics*, 31(3), 645–662.
- HEINECK, G. (2001): “The Determinants of Church Attendance and Religious Human Capital in Germany: Evidence from Panel Data,” Discussion paper.

- IANNACCONE, L. R. (1998): "Introduction to the Economics of Religion," *Journal of Economic Literature*, 36(3), 1465–1496.
- IANNACCONE, L. R., AND E. BERMAN (2008): "The Economics of Religion," in *The New Palgrave Dictionary of Economics*, ed. by S. N. Durlauf, and L. E. Blume. 2nd Edition, Basingstoke: Palgrave Macmillan.
- IMBENS, G. W., AND J. D. ANGRIST (1994): "Identification and Estimation of Local Average Treatment Effects," *Econometrica*, 62(2), 467–475.
- JANUS, A. L. (2010): "The influence of social desirability pressures on expressed immigration attitudes," *Social Science Quarterly*, 91(4), 928–946.
- KYDLAND, F. E., AND E. C. PRESCOTT (1977): "Rules Rather Than Discretion: The Inconsistency of Optimal Plans," *Journal of Political Economy*, 85(3), 473–91.
- LA PORTA, R., F. LOPEZ-DE SILANES, A. SHLEIFER, AND R. W. VISHNY (1997): "Trust in Large Organizations," *American Economic Review P&P*, 87(2), 333–38.
- LUKE (15:17-20): *Bible*. World English Bible.
- LUNA-AROCAS, R., G. GUZMAN, I. QUINTANILLA, AND M. FARHANGMEHR (2001): "The Euro and European identity: The Spanish and Portuguese case," *Journal of Economic Psychology*, 22(4), 441–460.
- LUTTMER, E. F. P. (2001): "Group loyalty and the taste for redistribution," *Journal of political Economy*, 109(3), 500–528.
- MALMENDIER, U., AND S. NAGEL (2011): "Depression Babies: Do Macroeconomic Experiences Affect Risk Taking?," *Quarterly Journal of Economics*, 126(1), 373–416.
- METCALFE, R., N. POWDTHAVEE, AND P. DOLAN (2011): "Destruction and Distress: Using a Quasi-Experiment to Show the Effects of the September 11 Attacks on Mental Well-Being in the United Kingdom," *Economic Journal*, 121(550), F81–F103.
- MIAN, A., A. SUFI, AND F. TREBBI (2010): "The Political Economy of the US Mortgage Default Crisis," *The American Economic Review*, 100(5), 1967–1998.
- MONTAGNOLI, A., AND M. MORO (2014): "Everybody Hurts: Banking Crises and Individual Wellbeing," Working paper, Sheffield University.
- NELSEN, B. F., AND J. L. GUTH (2003): "Roman Catholicism and the founding of Europe: how Catholics shaped the European Communities," in *Annual Meeting of the American Political Science Association, Philadelphia, Pennsylvania*, pp. 28–31.

- NUNN, N. (2009): “The Importance of History for Economic Development,” *Annual Review of Economics*, 1(1), 65–92.
- PONTICELLI, J., AND H.-J. VOTH (2011): “Austerity and Anarchy: Budget Cuts and Social Unrest in Europe, 1919-2008,” CEPR Discussion Papers 8513, C.E.P.R. Discussion Papers.
- POTRAFKE, N., AND M. REISCHMANN (2015): “Fiscal Transfers and Fiscal Sustainability,” *Journal of Money, Credit and Banking*, 47(5), 975–1005.
- PRILUCK, J. (2015): “The Two Europes,” *Slate*, February 6, [http://www.slate.com/articles/business/moneybox/2015/02/greece\\_austerity\\_eurozone\\_leaders\\_won\\_t\\_back\\_off\\_because\\_of\\_the\\_vastly\\_different.html](http://www.slate.com/articles/business/moneybox/2015/02/greece_austerity_eurozone_leaders_won_t_back_off_because_of_the_vastly_different.html).
- RENNEBOOG, L., AND C. SPAENJERS (2012): “Religion, economic attitudes, and household finance,” *Oxford Economic Papers*, 64(1), 103–127.
- SCHÜLLER, S. (2012): “The Effects of 9/11 on Attitudes Toward Immigration and the Moderating Role of Education,” IZA Discussion Papers 7052, Institute for the Study of Labor (IZA).
- SIEBERER, U. (2010): “Behavioral consequences of mixed electoral systems: Deviating voting behavior of district and list MPs in the German Bundestag,” *Electoral Studies*, 29(3), 484–496.
- SOEP (2013): “Socio-Economic Panel (SOEP), Data for years 1984-2012,” Version 29, doi:10.5684/soep.v29.
- SPENKUCH, J. L., AND P. TILLMANN (2015): “Religion, Economics, and the Electoral Success of the Nazis,” mimeo, Northwestern University.
- STAIGER, D., AND J. H. STOCK (1997): “Instrumental Variables Regression with Weak Instruments,” *Econometrica*, 65(3), 557–586.
- STOCK, J. H., AND M. YOGO (2005): “Testing for Weak Instruments in Linear IV Regression,” in *Identification and Inference for Econometric Models: Essays in Honor of Thomas Rothenberg*, ed. by D. W. K. Andrews, and J. H. Stock. New York: Cambridge University Press.
- STULZ, R. M., AND R. WILLIAMSON (2003): “Culture, openness, and finance,” *Journal of Financial Economics*, 70(3), 313–349.
- TRAUNMÜLLER, R. (2009): “Religion und Sozialintegration,” *Berliner Journal für Soziologie*, 19(3), 435–468.

- (2010): “Moral Communities? Religion as a Source of Social Trust in a Multi-level Analysis of 97 German Regions,” *European Sociological Review*, pp. 1–18.
- ULLRICH, V. (1998): *Otto von Bismarck*. Rowohlt.
- VOIGTLÄNDER, N., AND H.-J. VOTH (2012): “Persecution Perpetuated: The Medieval Origins of Anti-Semitic Violence in Nazi Germany,” *Quarterly Journal of Economics*, 127(3), 1339–1392.
- VOLLAARD, H. (2006): “Protestantism and Euro-scepticism in the Netherlands,” *Perspectives on European Politics and Society*, 7(3), 276–297.
- WAGNER, G. G., J. R. FRICK, AND J. SCHUPP (2007): “The German Socio-Economic Panel Study (SOEP) – Scope, Evolution and Enhancements,” *Schmollers Jahrbuch : Journal of Applied Social Science Studies / Zeitschrift für Wirtschafts- und Sozialwissenschaften*, 127(1), 139–169.
- WAGNER, G. G., AND J.-P. SCHRAEPLER (2001): “Das Verhalten von Interviewern - Darstellung und ausgewählte Analysen am Beispiel des Interviewer-Panels des Sozio-oekonomischen Panels,” *Allgemeines Statistisches Archiv*, 85(1), 45–66.
- WEBER, M. (1904): “Die protestantische Ethik und der ‘Geist’ des Kapitalismus,” in *Gesammelte Aufsätze zur Religionssoziologie*. J.C.B. Mohr (Paul Siebeck), Tübingen.

Table A.1: EVS: DESCRIPTIVE STATISTICS.

Variable	obs	mean	std. dev.	min	max	m Prot	m Cath
Protestant	2,075	0.270	0.444	0	1	1	0
Catholic	2,075	0.227	0.419	0	1	0	1
Muslim	2,075	0.013	0.113	0	1	0	0
other religion	2,075	0.024	0.152	0	1	0	0
no religion	2,075	0.466	0.499	0	1	0	0
EU: fear loss of social security	2,026	7.164	2.719	1	10	7.078	7.047
EU: fear loss of national culture	2,039	5.749	2.912	1	10	5.973	6.330
EU: fear that own country pays	2,015	7.244	2.574	1	10	7.204	7.355
EU: fear of job losses	2,040	7.854	2.452	1	10	7.868	7.775
justify tax fraud	2,060	1.966	1.628	1	10	1.930	2.209
university	2,075	0.120	0.326	0	1	0.105	0.096
apprenticeship, vocational education	2,075	0.573	0.495	0	1	0.601	0.601
other educational degree	2,075	0.189	0.392	0	1	0.173	0.187
compulsory or no education	2,075	0.111	0.314	0	1	0.116	0.113
age	2,051	49.734	16.584	18	92	51.863	49.884
female	2,075	0.523	0.500	0	1	0.585	0.529

## A Supplementary tables

Table A.1 shows descriptive statistics for the respondents in the 2008 European Values Study, Table A.4 shows supplementary outputs that compare Protestants and Catholics only, where Catholics are the left-out baseline category.

Table A.2: SOEP—DETAILED DESCRIPTIVE STATISTICS.

2003	Protestants	Non-Protestant	Catholic
Subjective well-being	7.1030	6.8575	7.0951
Concerned about the euro	0.1874	0.2350	0.2314
Observations	4117	7943	3387
2011	Protestants	Non-Protestant	Catholic
Subjective well-being	6.8920	6.8204	6.9636
Concerned about the euro	0.2043	0.2130	0.2040
Female	0.5568	0.4931	0.5163
No migration background	0.9073	0.7948	0.7816
Direct migration background	0.0570	0.1373	0.1341
Indirect migration background	0.0356	0.0679	0.0843
Age	54.2969	51.0693	52.1545
Nationality: German	0.9831	0.8896	0.9014
Nationality: Turkish	0.0000	0.0298	0.0000
Nationality: Italian	0.0017	0.0200	0.0429
Nationality: Greek	0.0002	0.0043	0.0001
Nationality: others	0.0150	0.0563	0.0556
Education: primary	0.1449	0.1505	0.1769
Education: secondary	0.6560	0.6437	0.6449
Education: tertiary	0.1991	0.2059	0.1781
Education years	12.2390	12.1509	11.9573
Employment: full-time	0.3449	0.4340	0.4095
Employment: regular part-time	0.1150	0.1069	0.1243
Employment: Marginal, irregular part-t.	0.0525	0.0539	0.0545
Employment: other forms (e.g., retraining)	0.0188	0.0139	0.0144
Employment: out of labor force	0.4688	0.3914	0.3973
Registered as unemployed	0.0364	0.0620	0.0311
Retired	0.0597	0.0581	0.0458
Self-employed	0.3588	0.2642	0.2902
Equalized real income	1738.9030	1749.1240	1786.2507
Owner of dwelling	0.5560	0.4649	0.5637
Dwelling: in good condition	0.6897	0.6938	0.7319
Dwelling: some renovation needed	0.2853	0.2799	0.2497
Dwelling: full renovation needed	0.0250	0.0263	0.0184
Living area	105.1393	98.0717	107.6911
Number of persons in household	2.3319	2.3510	2.4714
Person needing care in household	0.0477	0.0348	0.0454
No children in household	0.7877	0.7651	0.7540
Family status: married	0.5571	0.5541	0.5804

Family status: single	0.2278	0.2465	0.2319
Family status: divorced	0.0846	0.1077	0.0790
Family status: widowed	0.1127	0.0689	0.0880
Family status: married but separated	0.0179	0.0229	0.0207
Partnership	0.7267	0.7420	0.7433
Doctor visits	2.7289	2.4600	2.4518
Disability	0.1494	0.1432	0.1403
Hospital stay	0.1419	0.1290	0.1231
Recently married	0.0124	0.0111	0.0107
Recently moved together with partner	0.0192	0.0135	0.0139
Recently divorced	0.0096	0.0060	0.0052
Recently separated from partner	0.0136	0.0172	0.0159
Recently experienced death of partner	0.0056	0.0037	0.0046
Recently had a child	0.0201	0.0181	0.0152
Extraversion	4.7552	4.7149	4.6809
Agreeableness	5.4669	5.4157	5.4878
Conscientiousness	5.8215	5.8319	5.8517
Neuroticism	3.8936	3.8509	3.8673
Openness	4.3940	4.3506	4.2995
Year in the panel	13.1116	13.6459	13.5415
Oral interview with paper and pencil	0.1799	0.1958	0.2046
Oral interview with computer assistance	0.2816	0.2433	0.2501
Self-written with interviewer presence	0.0191	0.0246	0.0247
Partly oral, partly self-written interview	0.0315	0.0254	0.0222
Self-written without interviewer presence	0.1728	0.2036	0.2136
Self-written and sent via mail	0.3151	0.3073	0.2849
Day of the interview: Monday	0.1785	0.1865	0.1726
Day of the interview: Tuesday	0.1658	0.1670	0.1746
Day of the interview: Wednesday	0.2040	0.1917	0.1761
Day of the interview: Thursday	0.1706	0.1595	0.1711
Day of the interview: Friday	0.1431	0.1370	0.1359
Day of the interview: Saturday	0.0999	0.1046	0.1168
Day of the interview: Sunday	0.0381	0.0537	0.0529
Interview month: February	0.3502	0.3232	0.3139
Interview month: March	0.3094	0.3317	0.3127
Interview month: April	0.1512	0.1614	0.1685
Interview month: May	0.0932	0.0861	0.0961
Interview month: June	0.0510	0.0519	0.0568
Interview month: July	0.0337	0.0334	0.0407
Interview month: August	0.0113	0.0125	0.0113
Regional exports (1,000 EUR/employee)	113.6571	115.1877	119.3249

Regional GDP (1,000 EUR/pop)	31.7085	31.3792	33.4781
Reg: constr. permits new apartments (per 1,000 pop)	2.2903	2.4541	2.7450
Reg: new apartments (per 1,000 existing apartments)	3.7985	4.0528	4.6988
Reg: newly constructed apartments (per 1,000 pop)	1.8462	1.9733	2.2341
Regional share foreigners in percent	8.9079	8.8118	9.8756
Regional unemployment rate in percent	7.1132	7.3610	5.8387
Regional unemployment rate foreigners in percent	8.1472	7.8847	7.0469
Observations	4,272	8,246	3,426

Table A.3: MONTHLY DISTRIBUTION OF RELIGIOUS DENOMINATION.

	Protestants	Non-Protestant	Catholic	Obs
Interview month: February	0.3612	0.6388	0.2607	4169
Interview month: March	0.321	0.679	0.2671	4140
Interview month: April	0.3102	0.6898	0.3	1970
Interview month: May	0.3918	0.6082	0.2952	1118
Interview month: June	0.3254	0.6746	0.2938	633
Interview month: July	0.3835	0.6165	0.2784	352
Interview month: August	0.3456	0.6544	0.2059	136

Table A.4: ORDERED PROBIT ESTIMATES.

	EU-related fears				
	(1)	(2)	(3)	(4)	(5)
	justify tax fraud	loss soc secur	loss nat cult	own ctry pays	loss of jobs
protestant	-0.233*** (0.071)	-0.013 (0.063)	-0.134** (0.064)	-0.071 (0.064)	0.033 (0.065)
muslim	-0.182 (0.223)	0.040 (0.189)	-0.080 (0.151)	-0.100 (0.195)	-0.024 (0.227)
other rel.	-0.440** (0.180)	-0.179 (0.175)	-0.337** (0.168)	-0.184 (0.158)	-0.080 (0.159)
no rel.	-0.346*** (0.064)	0.161*** (0.060)	-0.329*** (0.061)	-0.004 (0.060)	0.107* (0.060)
university	-0.102 (0.111)	-0.369*** (0.102)	-0.350*** (0.095)	-0.298*** (0.093)	-0.220** (0.100)
apprenticeship	-0.070 (0.088)	0.119 (0.078)	-0.024 (0.075)	0.176** (0.078)	0.277*** (0.080)
other educ	-0.008 (0.103)	-0.048 (0.089)	-0.160* (0.086)	-0.042 (0.091)	0.015 (0.091)
age/10	-0.125*** (0.016)	0.016 (0.015)	0.017 (0.014)	0.030** (0.015)	-0.057*** (0.016)
female	-0.205 (0.053)	0.103** (0.047)	-0.042 (0.046)	-0.015 (0.047)	0.057 (0.048)
pseudo-R2	0.019	0.008	0.007	0.006	0.011
observations	2036	2002	2015	1991	2017

Notes: Robust standard errors are in parentheses; \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Table A.5: FULL OUTPUT FIRST STAGE.

Variable	Coefficient	Std. Err.
News	0.155***	(0.037)
Female	-0.034**	(0.016)
Direct migration background	-0.084**	(0.035)
Indirect migration background	-0.001	(0.034)
Age	0.025	(0.015)
Age squared	-0.000	(0.000)
Age cube	0.000	(0.000)
German nationality	0.016	(0.051)
Turkish nationality	-0.017	(0.090)
Italian nationality	-0.072	(0.112)
Greek nationality	0.241	(0.162)
Secondary education	0.029	(0.034)
Tertiary education	0.068	(0.044)
Education years	-0.127***	(0.035)
Education years squared	0.003***	(0.001)
Full-time employment	0.102**	(0.049)
Regular part-time employment	0.103**	(0.051)
Marginal, irregular part-time employment	0.103**	(0.053)
Out of labor force	0.083*	(0.045)
Registered as unemployed	0.009	(0.045)
Self-employed	0.015	(0.030)
Retired	0.029	(0.038)
Log equalized real income	-0.108***	(0.020)
Owner of dwelling	-0.042**	(0.020)
Dwelling needs some renovation	-0.005	(0.016)
Dwelling needs full renovation	-0.030	(0.048)
Living area	0.001**	(0.001)
Living area squared	-0.000*	(0.000)
Number of persons in household	0.011	(0.010)
Person needing care in household	-0.080**	(0.038)
No children in household	0.055**	(0.023)
Married	-0.010	(0.028)
Divorced	0.043	(0.037)
Widowed	0.043	(0.052)
Separated	-0.107**	(0.048)
Partnership	0.031	(0.025)
Number of doctor visits	0.005**	(0.002)
Disability	0.043*	(0.026)

Hospital stay	0.003	(0.025)
Recently married	0.056	(0.060)
Recently moved together with partner	-0.032	(0.049)
Recently divorced	0.140	(0.088)
Recently separated from partner	0.111*	(0.056)
Recently experienced death of partner	0.183	(0.180)
Recently had a child	-0.058	(0.045)
Regional exports	0.000	(0.000)
Regional GDP	0.002	(0.002)
Regional constr. permits new apartments	-0.009	(0.029)
Regional share new apartments	0.034	(0.041)
Regional newly constructed apartments	-0.084	(0.092)
Regional share foreigners in percent	-0.005	(0.005)
Regional unemployment rate in percent	0.020**	(0.009)
Regional unemployment rate foreigners %	-0.000	(0.001)
Self-written questionnaire and sent via mail	0.022	(0.029)
Partly oral, partly self-written interview	-0.057	(0.035)
Self-written without interviewer presence	0.018	(0.028)
Protestant	0.025	(0.020)
Other religion	0.021	(0.045)
No denomination	-0.006	(0.021)
Federal state dummies		yes
Years in panel dummies		yes
Observations		6,436
$R^2$		0.125

*Notes:* Dependent variable is being very concerned about the euro. Further controls includes variables for federal state (15) and year in the panel (26). Robust standard errors are in parentheses. Survey weights are used. SOEP data from 2011 and LexisNexis data are used. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Table A.6: REDUCED FORM AND FIRST STAGE–FULL SAMPLE.

	(1)	(2)	(3)	(4)
	Protestants	Non-Protestants	Catholics	full sample
Reduced form estimates: subjective wellbeing and news				
News	-0.311*	0.099	0.045	-0.050
	(0.166)	(0.111)	(0.153)	(0.095)
Controls	yes	yes	yes	yes
Observations	4,272	8,246	3,426	12,518
R <sup>2</sup>	0.206	0.195	0.205	0.183
First stage: concerns about the euro and news				
News	0.151***	0.079**	0.091*	0.106***
	(0.040)	(0.032)	(0.049)	(0.026)
Controls	yes	yes	yes	yes
Observations	4,272	8,246	3,426	12,518
R <sup>2</sup>	0.148	0.077	0.119	0.081
F-Test on instrument	13.982	5.959	3.412	16.542

*Notes:* Dependent variable in upper panel is life satisfaction on a 0 to 10 scale. Dependent variable in lower panel is being very concerned about the euro. Control variables are same as in Table 4, except for Big Five personality measures, which are not included. Robust standard errors are in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Table A.7: SECOND STAGE–FULL SAMPLE.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Protestants		Non-Protestants		Catholics		all denominations	
	IV	OLS	IV	OLS	IV	OLS	IV	OLS
All survey methods								
Euro concerns	-2.061*	-0.490***	1.256	-0.267***	0.492	-0.285***	-0.476	-0.343***
	(1.099)	(0.101)	(1.538)	(0.066)	(1.717)	(0.100)	(0.889)	(0.057)
Controls	yes	yes	yes	yes	yes	yes	yes	yes
Observations	4,272	4,272	8,246	8,246	3,426	3,426	12,518	12,518
R <sup>2</sup>	0.106	0.216	0.081	0.198	0.179	0.209	0.187	0.188

*Notes:* Dependent variable is life satisfaction on a 0 to 10 scale. Control variables are same as in Table 4, except for Big Five personality measures, which are not included. Robust standard errors are in parentheses.

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Table A.8: FULL OUTPUT SECOND STAGE.

Variable	Coefficient	Std. Err.
Concerned about the euro	-1.997**	(0.892)
Female	-0.026	(0.077)
Direct migration background	-0.092	(0.188)
Indirect migration background	0.119	(0.137)
Age	-0.028	(0.069)
Age squared	-0.000	(0.001)
Age cube	0.000	(0.000)
German nationality	0.005	(0.259)
Turkish nationality	0.420	(0.425)
Italian nationality	0.124	(0.467)
Greek nationality	2.201*	(1.140)
Secondary education	0.077	(0.133)
Tertiary education	0.446**	(0.194)
Education years	0.020	(0.179)
Education years squared	-0.003	(0.006)
Full-time employment	-0.043	(0.248)
Regular part-time employment	0.148	(0.261)
Marginal, irregular part-time employment	-0.051	(0.272)
Out of labor force	0.115	(0.260)
Registered as unemployed	-0.728***	(0.205)
Self-employed	0.081	(0.125)
Retired	0.172	(0.180)
Log equalized real income	0.328**	(0.137)
Owner of dwelling	-0.095	(0.092)
Dwelling needs some renovation	-0.434***	(0.071)
Dwelling needs full renovation	-0.809***	(0.222)
Living area	0.005	(0.003)
Living area squared	-0.000	(0.000)
Number of persons in household	0.046	(0.042)
Person needing care in household	-0.792***	(0.191)
No children in household	0.231*	(0.120)
Married	0.178	(0.121)
Divorced	0.186	(0.171)
Widowed	0.505**	(0.220)
Separated	0.286	(0.263)
Partnership	0.613***	(0.113)
Number of doctor visits	-0.061***	(0.010)
Disability	-0.105	(0.117)

Hospital stay	-0.253**	(0.112)
Recently married	-0.207	(0.325)
Recently moved together with partner	-0.006	(0.192)
Recently divorced	0.767**	(0.370)
Recently separated from partner	-0.115	(0.284)
Recently experienced death of partner	-2.067**	(1.013)
Recently had a child	0.560***	(0.177)
Regional exports	0.000	(0.001)
Regional GDP	0.008	(0.010)
Regional constr. permits new apartments	-0.037	(0.125)
Regional share new apartments	-0.262	(0.185)
Regional newly constructed apartments	0.709*	(0.455)
Regional share foreigners in percent	-0.039*	(0.022)
Regional unemployment rate in percent	0.074*	(0.044)
Regional unemployment rate foreigners %	0.003	(0.003)
Self-written questionnaire and sent via mail	-0.052	(0.128)
Partly oral, partly self-written interview	0.086	(0.164)
Self-written without interviewer presence	-0.071	(0.123)
Protestant	-0.102	(0.089)
Other religion	-0.542**	(0.231)
No denomination	-0.193**	(0.097)
Federal state dummies		yes
Years in panel dummies		yes
Observations		6,436
$R^2$		0.099

*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). Robust standard errors are in parentheses. Survey weights are used. SOEP data from 2011 and *LexisNexis* data are used. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .