Swiss Metadatabase of Religious Affiliation in Europe (SMRE)

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Religious Affiliation as a Baseline for Religious Diversity in Contemporary Europe. Making Sense of Numbers, Wordings, and Cultural Meanings

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Abstract

This working paper reports on the data and findings of the SNSF-research project "Swiss Metadatabase of Religious Affiliation in Europe (SMRE)". Eight years ago, the two authors started with the simple, yet irritating observation that the existing data on religious affiliation in various European countries frequently showed substantial differences. The SMRE-project was set up to investigate this situation in more detail and to improve the data quality. The project became funded by the SNSF in 2015 and thus resulted in "big data work" (in the double sense of the word). After years of collecting, comparing, and integrating data from various sources into the newly designed, internet-based SMRE-metadatabase, the working paper presents new statistical estimates on religious affiliation in Europe on a country and EU-level. The numbers given are validated and standardized *estimates* allowing for comparisons across countries, between two time-periods (2000: 1996-2005, and 2010: 2006-2015). The SMRE covers 50 European and neighbouring Eastern states, as well as the European Union and the Council of Europe as special entities. The SMRE-estimates result from a heuristic model of religion, a working definition of religious affiliation, a transparent and consistent rating procedure and finally a general algorithm for integrating the existing wealth of data into a single statistical data set on religious affiliation in Europe. The SMRE presents estimates in the sense that, to the best of our knowledge, these data are reliable numeric expressions for the distribution of religious affiliation in Europe, i.e. the (rough) percentage of people who say they belong to one out of eight major European religious, including the category *No religious affiliation*.

The paper starts with the current state of research, documents the SMRE-approach and its algorithm and reports the substantial results of analysing the SMRE-estimates by means of descriptive and explorative data analysis. Our analysis shows that the religious landscape measured by religious affiliation has become a double-layered structure in Europe. First, the legacies of the different, historically dominant Christian traditions are still shaping today's religious scene. Path dependencies are clearly at work. Secondly, the 20th century shift towards larger shares of people with no religious affiliation in European countries altered the structure of many, yet not of all countries significantly. In addition, more recent developments of using religion in identity politics are leading to homogenisation in a few countries. As a result, Europe and the European Union show large differences in the degree of religious pluralisation today. In terms of EU member states, their differences in religious affiliation and its changes even tend to separate the old and new member states religiously and culturally. There is a need for more detailed investigations into religious diversity and pluralisation in Europe across countries. The SMRE-estimates on religious affiliation provide a new baseline for such research. All SMRE-data are made available as open research data (www.smre-data.ch).

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1 Foreword

This working paper reports on the data and findings of the SNSF-research project "Swiss Metadatabase of Religious Affiliation in Europe" (SMRE). Eight years ago, the authors started with the simple observation that where one might expect a single solid statistic, the existing data on religious affiliation of European countries frequently showed substantial differences – indeed, in some cases, these differences were massive (and in a certain sense, they are still massive). At that time, we had to decide between three options for our research. The first was to follow the well-established practice of social science to select a single international cross-country-survey programme or an existing data collection and to consider it as the "best choice available". The second was to try to recombine data from existing sources into a new statistic based on informed judgement. The third option was to take a "closer look behind the numbers", i.e. to focus on the discovered differences in statistics on religious affiliation in Europe in depth, to find reasons for them and then to create a new approach to overcome the shortcomings of existing data. We decided in favour of the last option – resulting in "big data work" (in the double sense of the word). By collecting, comparing, and integrating data from various sources into our newly designed research tool, the internet-based SMRE metadatabase, we hoped to gain new insights into the question of how and why numbers on religious affiliation differ and how to overcome this. Curious as we were, we wanted to come up with "the real numbers"...

Now, eight years later and after many hours of exchange and debate with colleagues and friends and after even longer hours of feeding our SMRE-metadatabase with numbers and question wordings and programming its algorithm, we are ready to present new statistics on religious affiliation in Europe. Our statistics cover 50 European and neighbouring Eastern states. The numbers given are validated and standardized *estimates* allowing for comparisons across countries and between two periods (2000: 1996-2005, and 2010: 2006-2015). These estimates result from a consistent and transparent rating procedure, as well as subsequent decisions and calculations by a general algorithm for integrating the

existing wealth of data into a single statistical data set on religious affiliation in Europe. They are estimates in the sense that, to the best of our knowledge, these data are reliable and comparable numeric expressions for the (rough) percentage of people who say they belong to one out of eight major religious traditions including the category of *No religious affiliation* in a given country or period of time. The following pages show how these new data came about and what these data reveal on the religious diversity of today's Europe and how it changed since the mid-1990s. For those who want to delve more deeply into the details, the Appendix gives additional information on the techniques used and the particular results of the SMRE-project.

At this point, we want to give thanks to the many people who supported our project. Roger Wicki and his team at the IT-company *ongoing* did a great job making a complex relational database work on the web and integrating fabulous tools to visualise and analyse our data according to our many ideas, wishes and requirements. Alina Ganje, Maurus Candrian, Yannick Gasser and David Zaugg formed a brilliant team when it came to data collection and verification. Our colleague and expert on social science methodology Rainer Diaz-Bone (Lucerne) had most valuable advice on many intricate questions and encouraged us to look for robust criteria for data assessment. Martin Baumann (Lucerne) accompanied the endeavour right from the start with his prudence and extraordinary experience in organizing good research. Andreas Tunger-Zanetti (Lucerne) directed us to expert data sources and statistics on Muslim population in Europe. Although being a little bit sceptical about our rigor with numbers in the beginning, our colleagues Jörg Stolz (Lausanne) and Detlef Pollack (Münster) supported the project in many respects. Our international cooperation with leading scholars Conrad Hackett from Pew (Washington DC), Todd Johnson (Boston) and Wojciech Sadlon (Warsaw) was most helpful and all the time inspiring. We are also thankful to our critiques and especially to David Voas (London) who undertook the effort to engage seriously in an exchange of views. In Switzerland, our thanks go to the Swiss National Science Foundation (SNSF) for funding our work and to colleague Lorenz Hurni (ETH Zurich) and his collaborator Roland Schenkel at the "Schweizer Weltatlas" for sharing their knowledge on spatial data and for integrating our data into their map on religious diversity in Europe. The Bundesamt für Statistik (Bern) provided data. FORS (Lausanne) and its survey experts Oliver Lipps and Michael Ochsner gave very helpful advice for evaluating data quality. Finally, we are thankful to our home university, which offers many opportunities to do social research in a not only most stimulating, but also most

scenic environment. The only thing missing was more leisure time on the lake of Lucerne – and with our families. Thanks to Astrid and Anita for supporting our curiosity on numbers about religious diversity in Europe.

2 Introduction: Why Religious Affiliation?

Contemporary Europe is struggling with diversity. Driven by processes of long-time social change and of secularisation and international migration in particular, questions about growing diversity and a challenged pluralism are prominent in today's public and scientific debates. Not least, religious differences figure large in this context. In many European countries, a substantial number of citizens feel that a growing religious diversity is more of a threat than a benefit to their societies. In particular, media reports on Islam and growing Muslim communities seem to alarm the public. Frequently, these reports connect a change in numbers in religion to a perceived growth of obstacles of social integration and even security risks (de facto caused by some rather tiny, but determined extremist groups ready to corrupt Muslim faith and human culture). Politicians of many strands started to use and sometimes misuse data on religious affiliation when it comes to mobilizing the public for their various concerns. In particular, there is a growing tendency in Eastern as well in some Western states to use the historically dominant religious tradition again as an identity marker for integrating a diverse electorate into populist parties and revitalized nation states. In many countries like Hungary, Poland, or Russia this practice can be related to long established or after Communism re-established roots in their religious history. But even in Western countries with a notable history of religious diversity and pluralism like Germany, Great Britain, the Netherlands or Switzerland, there is a trend to use Christianity as a cultural prerequisite to distinguish between old and new inhabitants.

In social sciences, recent studies on religion and social integration reflect this trend in social and political life (Arens et al., 2017; Alba and Foner 2015; Connor and Koenig 2013). Moreover, the disputed thesis of "the return of religion" on the global or European scale almost automatically leads to quarrels about numbers and statistics. Data on religious affiliation are quoted to prove the decline of religion in Europe – and to demonstrate the opposite (Gabriel, Gärtner, and Pollack 2014; Pollack, Müller, and Pickel 2012).

Thus, after years of neglect – many statistical offices of European countries dropped religion from their tables in the 1990s –, the issue of religious statistics is back on the scene. It is highly relevant in politics and social science. Religious affiliation frequently marks the starting point. To be sure, data on religious affiliation are certainly not the only statistical indicator for religion, religiosity or religious vitality (for the recent trends in measuring religion see Brenner 2016; Finke and Bader 2017; Huber and Huber 2012; Pollack and Rosta 2015, 48-85). However, data on religious affiliation are certainly an indispensable baseline when it comes to measuring religion and religious diversity. Statistics on religious affiliation are the most basic information on religion on the individual, organisational and societal level. Traditionally, many surveys regard the respondent's religious affiliation not only as relevant information on religion but as indicative of his or her position in the social structure, as well. On an aggregate level, data on religious affiliation are used as the most basic information about the religious composition of a given society or territory (Cipriani 2010; Cooperman, Sahgal, and Schiller 2017; Gerhards 2010; Pew Research Center 2014,). Studies on politics and religion start with chapters and tables on religious compositions (Liedhegener 2006, 99-108; Minkenberg 2008, 46-49; Norris and Inglehart 2004, 43-48, 93-95). In addition, any analysis of the degree of religious pluralisation is based on aggregated numbers on religious affiliation (Beckford 2010, 21-22; Pickel, Yendell and Jaeckel 2017; Wolf 2012).

For quite a while, this new importance of religious statistics contrasted in a peculiar way with the substantial lack of research on the quality of statistical data available on religion and religious affiliation in particular. Scientific interest in this has started to grow only recently (Brenner 2016; Hackett 2014; Maoz and Henderson 2013; Schmidt 2014; Voas 2014). The SMRE-project is part of this new direction. In its first phase (2010-2014), it collected and standardised data on religious affiliation across countries. The resulting comparison showed that for many countries, statistics on religious affiliation differ substantially from source to source. Data on France became a particular case in point (Liedhegener and Odermatt 2014; 2017a). In its second phase (2015-2018), the Swiss National Science Foundation (SNSF) funded the project. The project aims to add new insights to the understanding of this measurement problem, to improve data quality and – most importantly – to give estimates for all European countries for the two periods 2000 (1996-2005) und 2010 (2006-2015).

Such estimates are hard to obtain. At first glance, the term "religious affiliation" seems to be a clear-cut concept, which is easy to handle, especially when compared to concepts that are more general. Most scholars agree that "religiosity" is a much more ambitious concept, and talking about "religion" extends the scope even further. However, the "true numbers" – i.e. in our understanding, reliable estimates – depend very much on a precise conceptual definition of religious affiliation.[1] The problem of defining this term is not only an academic one. In survey research, the problem becomes very practical when it comes to questionnaires. Small changes in the wording of questions and answer options of questionnaires can change the statistical result substantially. In addition to the well-known context sensitivity of questionnaire wording in comparative studies, the overall effect of definitions and wording is vital to understand and measure religious affiliation. In short, our research started with comparing and evaluating numbers and statistics but moved beyond the more technical aspects quickly. Concepts and the cultural component in defining the term "religious affiliation" in particular required a great deal of attention. Thus, the main research question became twofold. We first ask: What is the meaning of religious affiliation? This question comprises the problem of defining it in social science as well as the possible understandings by respondents and the public at large. The second one is more empirical in nature. We want to measure religious diversity: What is the distribution of religious affiliation in Europe today? Did it change over time? And how much did it change? And what about the religious composition of the European Union or the Council of Europe?

In the following paragraphs, the paper starts commenting on the state of the art of religious affiliation prior to the SMRE-project (3.). Thereafter, it provides a more nuanced understanding of the term of "religious affiliation". Our working definition is based on a specific understanding of the concept of "religion" and is buttressed by historical insights into the phenomenon of religious belonging in Europe in the course of its long process of modernisation (4.). We then explain how we translated the core idea of reporting exclusively on "objective religious affiliation" into the SMRE-data tool (www.smre-data.ch) and its data evaluation procedure and its algorithm (5.). A special emphasis is put on how to handle the notoriously hard cases like Belgium, Czech Republic, France, Germany, Great Britain, and the Netherlands.

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1 Section 4 is devoted to this problem.

The next two sections (6.) and (7.) report on the new statistical findings on religious affiliation, religious diversity and religious pluralisation in Europe after 1995. The paper first presents the most important descriptive statistics on religious affiliation in contemporary Europe (6.). Completely new are our estimates on the religious composition of the EU, including data for the current EU 28 but also for former regional groupings of this supranational political body. Then we analyse the changes and trends in the religious composition of Europe's countries by means of explorative data analysis (7.). In particular, we focus on a comparative analysis of a religious concentration index, arguing for the appropriateness of using the sometimes heavily criticised Herfindahl-index in combination with our descriptive country data and ratings. The last paragraph summarizes our findings and reflects on them in the light of future research (8.).

3 Producing and Using Religious Affiliation Data: State of the Art

A report on the state of the art might look quite differently depending on the discipline or research tradition one starts with. During the course of the project, we learned that at least four distinguishable lines of research take up the topic of religious affiliation and its respective statistics for Europe (Liedhegener and Odermatt 2017b, 76-80). These lines of research worked quite independently from each other for a long time. Each of them followed its own research questions, tradition and conventions (for problems of this sort in general, see Diaz-Bone and Didier 2016). In short, national statistical offices and their censuses constitute the oldest line. From the 19th century onwards, they produced the core stock of data. Their shared and standardised understanding of "religious affiliation" as membership in a religious body influenced the measurement (and public understanding) substantially (Burger 1964; Petzke 2013, 263-299; Zieger 1958).

Religious demographers and sociologists stand for the second line. They are mostly US-based. Here are the leading teams like the *World Christian Encyclopedia/ World Christian Database* or the religious demography section of the *Pew Research Center*. Their aim is to produce statistics on religious affiliation on a global scale. Forecasts on the change of the religious landscape are of special interest to Pew (Cooperman, Hackett, and Schiller 2017; Pew Research Center 2015).This group of religious demographers works closely together (see e.g. Barrett, Kurian, and Johnson 2001; Grim, Johnson, Skirbekk, and Zurlo 2014, 2015, 2016, 2017; Hackett 2014; Hackett, Stonawski, Potančoková, Grim, and Skirbekk 2015; Johnson and Grim 2008, 2013; Pew Research

Center 2015). Their statistics are very comprehensive, well received across the globe and make headlines when published.

A group of European religious geographers forms the third line. Coming from the subdiscipline of human geography, they are interested in the spatial distribution of religion and its societal consequences (e.g. Bilska-Wodecka 2012; Henkel 2001, 2012; Henkel and Knippenberg 2005; Knippenberg 2005). In this line, research focuses very much on the religious composition of Europe, presenting data and taking up the question of diversity and pluralisation (Henkel 2012).

The quantitative branch of sociology of religion and its neighbouring disciplines like political science or economics of religion form the fourth line. This research is mainly rooted in the empirical-analytical paradigm of explanatory social research (e.g. Huber 2003; Norris and Inglehart 2004; Pickel 2013; Pickel and Müller 2009; Pollack, Müller, and Pickel 2012; Pollack and Rosta 2015; Stolz et al. 2014; Traunmüller 2012; Zulehner and Denz 1993). This research uses data on religious affiliation mostly as an independent variable. In practice, not much time is spent on the question of reliability and consistency here. Three strategies are used to mobilize data in an efficient way. Researchers may stick to a single international survey programme (e.g. BertelsmannStiftung 2007; Gerhards 2010). Thus, they can avoid visible inconsistency in religious affiliation data. However, at the same time this restricts them to a more or less arbitrary country sample since most international surveys are far from covering Europe completely. Other researchers interested in a more comprehensive country sample (have) decided to combine various sources on religious affiliation (e.g. Minkenberg 2008; Pickel, Yendell and Jaeckel 2017), thus leaving the question of consistency open. In addition, when it comes to aggregate data analysis some sociologists of religion favour older data collections. The most prominent data sets in use are data from Robert J. Barro and Rachel M. McCleary (2005) (used e.g. in Fox 2015; Koenig 2009) and data from Alberto Alesina et al. (2003) (used e.g. in Doktór 2009; Norris and Inglehart 2004; Traunmüller 2012). The first data set is derived from the *World Christian Encyclopedia*, the latter is a compilation based on the *Encyclopedia of Britannica 2001*. The most recent data set is the *World Religion Dataset* by Maoz and Henderson (2013). The ambitious project intended to cover all larger states for a period from 1945-2010 for every five years. It stands for some substantial methodological improvements. Its authors elaborated thoroughly on the categories of religious groups and invented a concept to estimates numbers from various sources. Where possible, their statistics on religious affiliation are

the “reliability-weighted mean of all sources” (275). However, their rather schematic approach to calculating new data from existing ones led to rather mixed results.

Finally, it is quite important to note that these four lines of research worked rather independently from each other for most of the time. Data were used across the lines, but there was only very little exchange of knowledge and arguments about data and data problems within the literature.

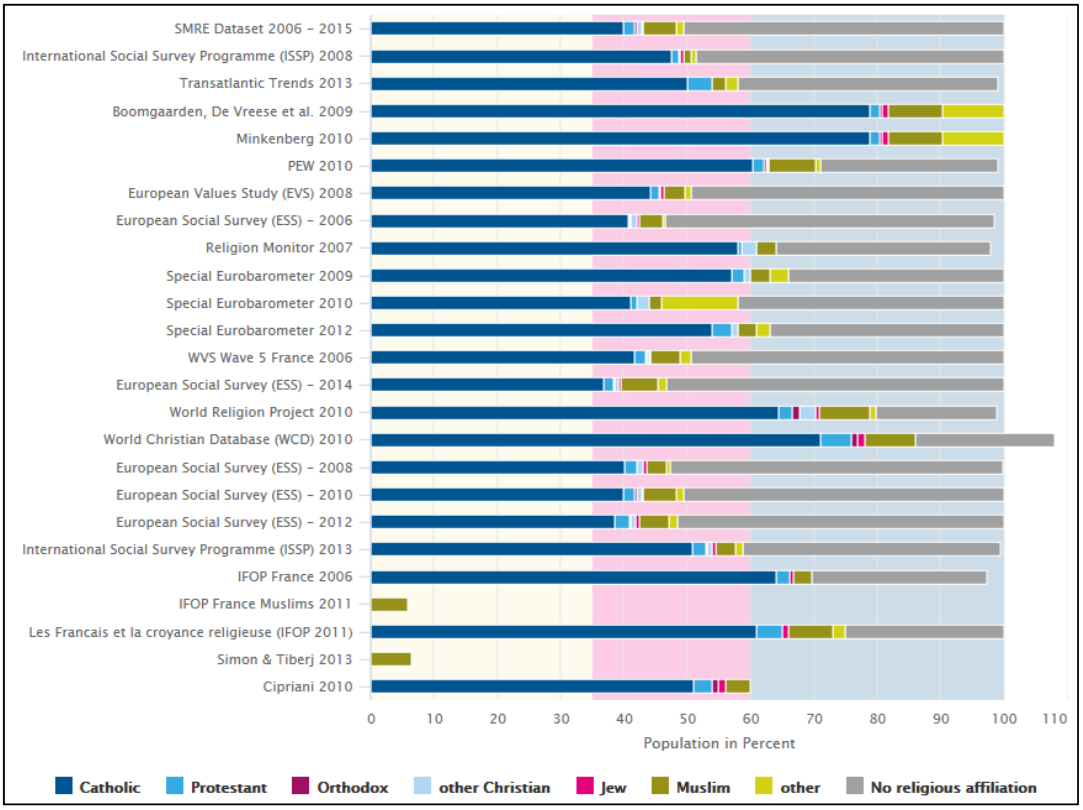
Two examples may demonstrate that this state of the art tends to lead to statistical inconsistencies and discrepancies. The examples are taken from empirical research in the sociology of religion. Matthias Koenig (2009) who among other merits is a leading expert on France published data on religious affiliation and pluralisation in France. He demonstrates that France is a highly monolithic country with regard to religious affiliation (Tab. 1, 389). He proves this by using the diversity index (which is calculated as 1-Herfindahl). Koenig gives France an index of 0.17 and Turkey (an index of) 0.01. Both are low values indicating a single dominant religious group. On this ground he concludes: “Was nun die religiöse Pluralisierung angeht, unterscheiden sich das katholisch geprägte Frankreich und die islamische Türkei kaum voneinander; hier wie dort ist das religiöse Feld vergleichsweise monopolistisch verfasst (vgl. Tabelle 1).” On the following pages, he reports on the distribution of different religious groups within the French population in more detail (392). Next to 3 percent of Muslims and various smaller groups, he reports that 58 percent are (Roman Catholic) Christians and 34 percent are without a religious affiliation. Based on these numbers, the diversity-index is never 0.17. In fact, according to our recalculations it is as high as 0.55. Almost the same value (0.54) is attributed to Germany, a religiously mixed country. Hence, in this case, incorrect numbers in tab. 1 misled Koenig to the substantial conclusion of the article that religious diversity in France is similar to the situation in Turkey.

In Detlef Pollack’s and Gregely Rosta’s brilliant study on “Religion in der Moderne” (2015), the Netherlands serve as an example for “Religion im freien Fall” (196). They report: “Gegenwärtig gehören nur noch etwas mehr als 30 % der Niederländer einer Kirche an.” (196) Based on a special local report, in tab. 6.1 they list 32 % affiliated for 2011. According to this table, 68 % are without an affiliation. The following statistics on various indicators of religious practice and beliefs are interpreted in the light of this basic finding. The remaining third of religiously affiliated people indeed justifies the interpretation of religion in free fall. However, the same book has a table on Western

Europe with data on many countries in 2008 based on EVS surveys (93). The Netherlands are included. Together with France, the Netherlands are trailing the field. But according to EVS data, as much as 49 % of the Dutch population still belong to a religious tradition. While 32 % certainly would be an exceptionally low value in Western Europe, in the EVS data the Netherlands come closer to normality in the context of its neighbouring countries. This is a noteworthy discrepancy in data that went by unnoticed by Pollack and Rosta. Saying this is not a reproach to them, but an indication of the existing problem of comparing and evaluating data from various sources.

For the first time, the SMRE allows us to do this within a few seconds. Figure 1 shows all data sets on France listed in the SMRE. It becomes immediately visible that the interpretation of the degree of religious diversity in France depends almost exclusively on the data you use or choose. Some statistics list Catholics as high as 78.7 %, some other as low as 36.7 %. The numbers for No religious affiliation show a reversed picture. Also, the percentage of Muslims showed a large variance according to the data available.

Figure 1: Dataset comparison for France in period 2006 - 2015



Source: own table, www.smre-data.ch; Chart: www.highcharts.com.

The immediate question arising from this bewildering picture is how to make sense of the data. What statistics can be established that provide if not "true numbers", then at least reliable estimates? And there is no escape by looking for external help (see also Norris and Inglehart 2004, 43-48, esp. 43-44). Apart from some national censuses, there are no official data from any international agency taking responsibility for this kind of statistics. The EU sometimes sponsors a survey question on religious affiliation in its long-time survey programme Eurobarometer. However, following the French tradition of separating state and religious bodies, the EU does not produce any official statistic on religious affiliation or religion. Hence, here the real endeavour of the SMRE starts.

4 Understanding "Religious Affiliation": Definitions and Theoretical Contexts

People can have manifold relationships to that phenomenon we usually call "religion".[2] In their everyday lives, they might be born into a family of one faith tradition and be a member of one religious group, practice some or none of the rites, but may also dabble in other forms of spirituality ranging from astrology to yoga meditation. At this individual level, manifold relationships to religion in its informal as well as institutional social forms seem to be a simple fact for any area and century. Religion and religious behaviour in particular are much more restricted when it comes to the societal level. On this level customs, laws, informal norms, institutions and organisations shape religion and its practice and content. Moreover, group membership and prevailing stereotypes socialize individuals into existing religious traditions and identities. In modern times, groups of "devote secularists" are also subjected to these social rules. In consequence, the social boundaries between different traditions can be very strong. They can be a cause of serious social and political conflict.

Defining Religious Affiliation

"Religious affiliation" is frequently used in social contexts and in fact, it is a fundamental term in many respects. It serves well to communicate about religion in everyday life. The same is true for social science research. Group categories like "Catholic", "Protestant", "Reformed", "Jewish", "Orthodox", "Muslim" or "no religious affiliation" are common terms to almost every citizen in Europe and certainly to all

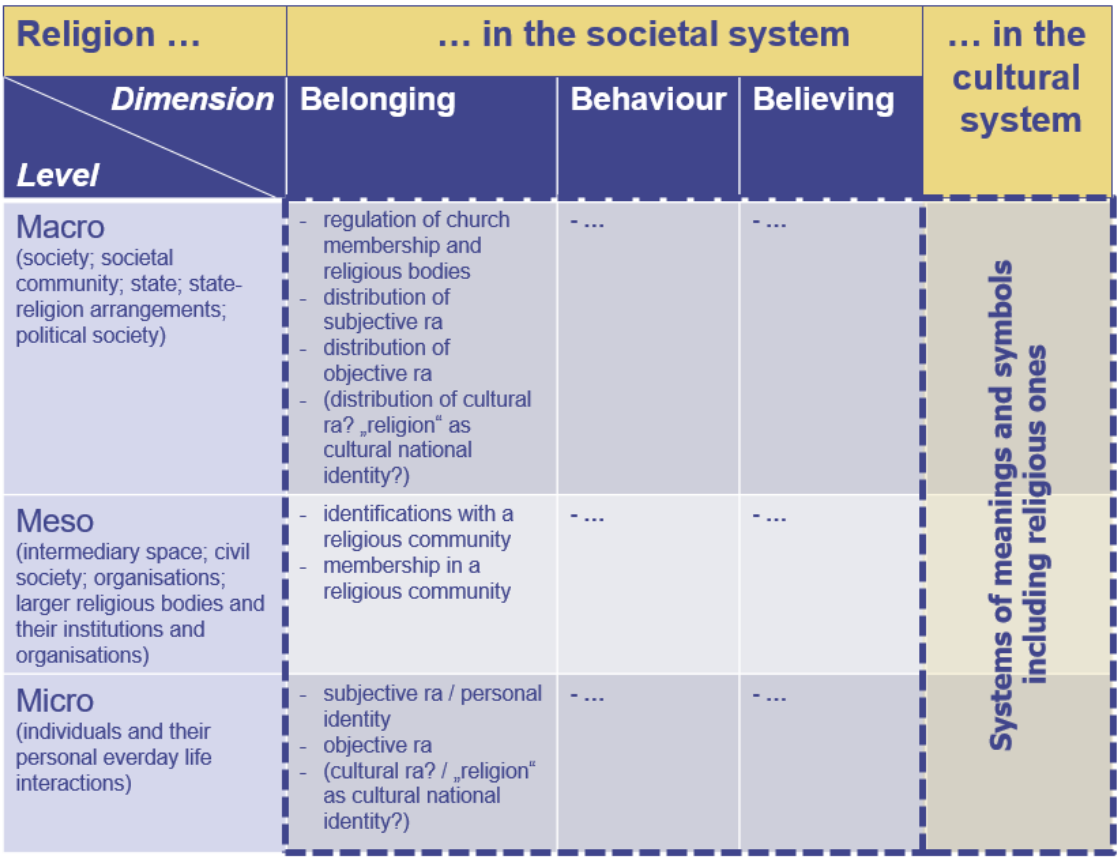
2 This paragraph draws on ideas first developed in Liedhegener and Odermatt 2017a and 2017b. In the light of our final results, we now add an explicitly stated heuristic model of religion.

scientists dealing with religion. However, for quite a while there has been a vivid controversy within the sociology of religion about to the importance of these categories in contemporary life. This debate focused on conflicting positions about the scope and relevance of old versus new forms of religion and especially on the well-received thesis of “believing without belonging” (Davie 1994, 2015; Gabriel, Gärtner, and Pollack 2014; Hamplová and Nespor 2009; Knoblauch 2009; Pickel and Sammet 2012; Pollack, Müller, and Pickel 2012; Pollack and Rosta 2015; Stolz et al. 2014). Meanwhile, the thesis that modern individuals can hold strong religious beliefs without showing social connections to religious traditions is on the retreat (Davie 2015). Yet, in general, the underlying and contradicting theses about secularization versus individualization remained not only empirically unsolved. They also resulted in entrenched and meanwhile somewhat unfertile scientific conflicts and camps (Pollack and Rosta 2015; Stolz 2013). Scholars championing secularization tend to lay a strong emphasis on religious belonging measured by religious affiliation (Pickel, Yendell and Jaeckel 2017; Pollack and Rosta 2015, 83-84). Scholars in favour of the individualisation of the expressions of religion prefer to problematize and downplay religious affiliation as a relevant indicator.

Thus, coming to terms with religious affiliation in empirical research is not just a problem of measurements. It is also a theoretical challenge that needs some clarifications. In the light of our work on statistics of religious affiliation in Europe and their meaning, we suggest a heuristic concept or model of religion in society (Fig. 2). In the context of this report, we do not elaborate on its many origins, nor do we intend to explicate fully the content and applications of this model in empirical research. We focus on our core concept religious affiliation and its definition and understanding. However, a reasonable definition of religious affiliation needs a web of terms to confine the phenomena involved precisely (Baumann 2012; Jödicke 2011; Zieger 1958). The most important corresponding terms are religion, religiosity, religious belonging and religious identity.

Much has been written about the notion of “religion”. Still, defining religion remains a „slippery enterprise." (Gill 2001, 120). According to a much-used basic understanding of religion in social science, religion is a "'system of beliefs and practices oriented toward the sacred or supernatural, through which the life experience of groups of people are given meaning and direction.'" In addition, religions "frequently take on an institutional form." (120) Although not exhaustive, this is a most helpful starting point. This way of defining religion names reference points. Religion is about the supernatural, is shaped by

Figure 2: A heuristic concept of religion: its systems locations, levels and dimensions



Remark: „ra" = religious affiliation.

Source: Own concept and illustration based on ideas or conceptual figures in Smidt, Kellstedt and Guth 2009, Lehmann and Jödicke 2016, 11 (Fig.); Liedhegener 2016, 120 (Fig.); Pollack and Rosta 2015, 41-43, 62-85, esp. 84 (Fig.); Stolz 2012, 78-80; Parsons 1972, 13 and 20 (Fig.), 1975, 14-53.

some sort of doctrine and an active practice, has identifiable social correlates (i.e. groups of people) and gives sense and guidance to collectives involved. Religion is guarded and transmitted by institutions and organisations. Thus, this definition stresses the relevance of the phenomenon in society. In addition to this approach, some aspects of religion operate more independently or at least from the realm of the individual, of groups and of social life. Talcott Parsons (analytically) deliberately distinguished the social system from the cultural system (Parsons 1972, 1975). Although produced by man in the course of history, the cultural system shows some qualities which are not directly linked to a social system or society at a given point in time. Language, symbols, lettering, scriptures, some basic legal norms and important aspects of religion like holy texts, explanations of life, creeds, ritual forms, songs, prayers and buildings and pictures form a cultural

heritage sui generis (Geertz 1987). The cultural system is relevant to society at large and to smaller social systems for maintaining basic patterns of self-understanding and for giving meaning to action at the individual and collective level. Certain aspects of religion are clearly a particular form of culture or – in more modern times – part of a number of cultural forms. All societies are based on and related to culture in this sense. Cultural studies and the humanities are a scientific approach to this aspect of human life and they are themselves an expression of it.

A Web of Concepts: Analytical Differentiations on Religion

Having located religion in the social and cultural system, for our purpose the concepts of its role in society have to be refined in more detail. In our view, each approach to come to terms with the social notion of religion must start from reflecting on the dimensions of religion. Social research has distinguished at least three basic dimensions of religion in society. The English-speaking literature calls these dimensions the "big three B's" in social research on religion. These B's are belonging, behaviour and belief. Smidt, Kellstedt, and Guth (2009) made a strong case for this distinction. In addition to these three dimensions, social analysis is confronted analytically with three different levels of society: the micro, the meso and the macro. In short, the micro deals with the individual, the meso with intermediary agents, and the macro with society (or larger social systems in general). "Religiosity" is pretty much a micro-level expression of religion (Huber and Huber 2012; Stolz 2012, 79). In liberal democracies, churches and other religious institutions and organisations are agents within the intermediary realm or civil society (Liedhegener 2017; Petzke and Tyrell 2012; Smidt, Kellstedt and Guth 2009).[3] "Religion" can be related and, in many countries, it is strongly related to the macro level of society, too. Each state of our globe regulates religion by some means or other (Fox 2013; Grim and Finke 2011). Finally, by virtue of historical legacies and current practice, religion forms culture (Norris and Inglehart 2004) and vice versa. In sum, this heuristic model forms a matrix helpful for locating and relating the terms of the web of concepts mentioned above. We now turn to this web in more detail.

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[3] According to the findings of Smidt, Kellstedt, and Guth (2009: 9), there are different "types of religious groups to which a person can claim attachment: a local church, a denomination (the Southern Baptist Convention, the Disciples of Christ), a religious family (Baptist, Lutheran, Methodist), or a religious movement (charismatic renewal or the fundamentalist movement)." In practice, empirical research has to give good reasons how to relate these different types to the macro, the meso and maybe (in case of very tiny groups) to the micro level.

In many publications, religious affiliation, religious belonging and religious identity are used as interchangeable terms. This encourages misperceptions and misinterpretation of data. The term "religious identity" has gained tremendous prominence in research on religion recently (Brenner 2017, Fox 2013; Hackett 2014; Stolz et al. 2014; Werkner and Hidalgo 2016). A considerable group of scholars stresses the political consequences of differing religious identities. They postulate a new religious cleavage between those people with strong religious commitments on one side and those with secular or atheistic beliefs on the other. (Fox 2013, 213–215; Stolz 2013, 25–49; Stolz et al. 2014, 216–217). In this context, numbers on the size of groups demonstrate strengths and social power again. However, this new interest in religious identity cannot escape older scientific problems intertwined mainly with the secularization thesis in its different varieties. The proof of the proclaimed effects of religious groups and group size is not easy to deliver – especially when the numbers on religious affiliation are differing. Moreover, by using the concept of identity, there is a good chance of intermingling the different dimensions of religion (Brenner 2017, 22-26). This is one of the many causes to validity problems of the data available on religious affiliation thus far. Conrad Hackett cautioned to be careful when making religious identity claims. He rightly concluded his overview on measurement problems by stating: "Measuring religious identity is complex." (2014, 396)[4]

If the propositions laid out here are accepted, two major conceptual requirements will result for defining and operationalizing religious affiliation. The first requirement is to keep the three dimensions of religion separate (Hackett 2014, 408-409). In our perspective, religious affiliation is part of only one of the three dimensions. Religious affiliation is an exclusive and integral part of the (larger) belonging-dimension. In consequence, this means that religious affiliation as such and respective data on it cannot be treated as a piece of information on religious practices or religious beliefs of a respondent, a group or a society (on this position for the micro level in conformity, see Pollack and Rosta 2015, 68, 83–85). In sum, religious affiliation says something rather basic about the belonging dimension only.

However, even when thus placed within the belonging dimension exclusively, the notion of religious affiliation usually carries ambivalent meanings. This becomes obvious when

[4] Usually, the term "religious identity" includes substantial elements from all three "B's". Moreover, the concept of identity is not restricted to the individual's self-perception. Following the tradition of Social Identity Theory, it also involves stereotypes and perceptions. Cf. Jenkins 2004; Müller 2011; Zick 2002.

its meaning is compared to and related with the by now prominent concept of "(social) identity" (Jenkins 2004). The second requirement is to relate both terms properly. Religious affiliation and religious identity are not the same thing. They can be, but they do not have to be. First, there are forms of religious belonging without a personally relevant identity. When defining and measuring "religious affiliation" as an expression of belonging, belonging has to be distinguished into two components: membership and identification. Membership is mainly a sociological category; identification is a psychological category. Although in social reality, membership and identification are usually somewhat intertwined (Schmidt 2014, 2; Voas 2014, 121), empirical research on religion can profit from treating them as potentially different. To illustrate this: Using quantitative and qualitative data from Switzerland, Jörg Stolz at al. (2014, 80–84) convincingly demonstrated that the meaning of individuals stating they belong to a particular religious group or tradition varies substantially among respondents. For many respondents, it is just a categorical form of identity having low practical relevance. It is a formal social category like being a pedestrian or being a member of the age group 50 and over. In these cases, for most of the time, religious affiliation as formal religious belonging does not interfere with a person's identity ("being just a member"). To other respondents however, religious belonging is a form of their personal and collective identity, highly relevant to their self-understanding and their conduct of life (see also Huber 2003; Voas 2014, 121). This difference has consequences on the macro level. When aggregating individual answers on religious affiliation we might touch upon relevant collective identities, but at this stage, we must conclude that aggregate data on religious affiliation are a "mixed bag". It includes rather formal memberships with low relevance in ordinary life, strong personal identifications with a religious group and its beliefs and national or cultural religious identities – and all nuances in between.

Objective and Subjective Religious Affiliation

Almost all international social-science survey programs feature some questions about religious belonging. As stressed above, they come up with pretty contradictory result. The seemingly straightforward question "What is your religion?" comes with many problems in empirical research (Hackett 2014), not least because different surveys frequently measure different variables differently (Voas 2014 with particular reference to Great Britain). The SMRE-project collected questionnaires and their wordings systematically. Their wording – questions and answers – is documented in the metadatabase. Moreover, there is a direct link from each survey result to the underlying

wording. Comparing the different wordings gathered during the SMRE-project, it becomes clear that the underlying definition of religious affiliation in empirical research and surveys usually comes in two types. The understanding of religious affiliation in survey research differs between those with a more "objective" and those with a more "subjective" understanding of religious affiliation. An objective definition aims to measure all institutional or formal forms of belonging to a religious group, organisation and/or tradition. In many European countries, the objective or institutional affiliation is supported by institutions and customs rooted in centuries-old legacies (Madeley 2003). Throughout Europe, this objective meaning of religious affiliation is based on the idea of religion as a kind of exclusive "membership role". A person can only belong to one particular church at a time. Usually religious affiliation is determined by birth and place. Conversion is understood as leaving the former religious group ("Konfession") and becoming a member and (maybe) believer of a new religious body. This understanding holds across Christian traditions and applies for Western and Eastern rites in a similar vein. Especially in countries on the territory of the Westphalian peace treaty of 1648, this understanding of religious affiliation is culturally rooted. It results from the historical legal principle *"cuius regio, eius religio"* (i.e. "whose realm, his religion"), which became established already in the time of the first religious wars in the aftermath of the Protestant Reformation in the 16th century. Until today, an official and/or legal membership status in a religious body exists in many countries. In some cases, this status even establishes the right to tax its members. Nowadays some European legal systems tend to apply this historically rooted idea to other non-Christian traditions. Considering this historical background and its practical relevance, it is no wonder that many scientists, most surveys, and almost all censuses favour this objective definition of religious affiliation for measurement.

However, social research also applies a second definition for measuring religious affiliation. This definition is equally valid, but measures another segment within a given population. This definition is based on the "subjective" understanding of religious affiliation. In some surveys like the European Social Survey (ESS), religious affiliation is defined by respondents' *feeling* of belonging to a religious group. Affiliation is understood as a person's *felt* self-identification in regard to belonging to a particular religion or not. This notion focuses on the psychological aspect of religious belonging. It is based on the respondent's subjective judgement on her or his religious feeling of belonging. This subjective notion of religious belonging can substantially overlap with

broader and somewhat different concepts like religion, religiosity, or religious identity (BertelsmannStiftung 2007; Huber and Huber 2012; Stolz et. al. 2014; Voas 2014). This measurement approach, using a concept of subjective religious affiliation, implies a specific concept of how and why religion may be a cause of certain effects in society. The fundamental mechanism is: identification results in consequences. In other words: The line of social science research is interested in explaining social action and its effects with the intentional acts of autonomous individuals only. Technically, measuring subjective religious affiliation frequently uses a two-step question in the form of: Q: "Do you feel you belong to any religion?" A: "Yes – No – don't know". Q: "If yes, which one?" A: a list of alternatives shown or read out.

In many countries, data on this subjective form of religious affiliation substantially differ from data measuring the objective meaning of religious affiliation. The SMRE database holds data and respective questionnaire wordings from both sources using the subjective and the objective definition. However, the SMRE-project's definition of religious affiliation, its metadatabase and subsequent calculations are based on religious affiliation as an objective form of belonging or formal membership. Numbers on religious affiliation represent affiliation regardless of the level of identification. On the aggregate level, religious affiliation is thus a property of the social structure of society. In its most basic understanding, the distribution of religious affiliation in its objective meaning represents a sort of formal membership to or institutional inclusion in a religious category. Thus, objective religious affiliation stands for a particular basic type of belonging within the larger dimension of religious belonging as such. In general, data on objective religious affiliation are appropriate to indicate the empirical baseline of the social significance of different religious categories, including the group of "No religious affiliation".[5] Data on objective religious affiliation also can touch upon the cultural dimension of religion in the sense that they are a strong indicator of the historical legacy of the dominant religious tradition in a given country or territory.

Two final caveats must be made on this chapter about definitions and theoretical underpinnings. The terms "objective" and "subjective" are accurate. However, they tend to cause misunderstandings or even rejection. The two categories as such do not include an evaluation or judgement. Depending on the research aim and in regard to personal preferences of researchers, they are equally valid expressions of different social realities. Moreover, they

[5] If not stated otherwise, all data used in this study are based on this definition. Data using a subjective definition were excluded from comparisons and calculations in order to apply a consistent term of religious affiliation to the analysis. However, the SMRE-metadatabase itself holds data sets based on both definitions. See appendix.

only say something about the definition of religious affiliation used. They do not indicate any difference in respect to how the data were collected technically. All our data refer to the individual answers of respondents to questions by surveys or censuses or to compilations by experts from the scientific community. With the single exception of Germany (where we finally relied on a compilation prepared by the EKD-statistical office for 2010), no data were taken from the organisational level of individual churches or religious bodies.

What about the "Culturals"?

Finally, studying the hard cases like France and Belgium in depth and asking country experts for special advice on the differing data available, we came across a third distinction within religious affiliation. In some countries, the position of the Catholic Church is substantially weakened by long-time secularisation and, in the case of Belgium, current scandals. In these countries – and most probably in similar Protestant cases like Great Britain or the Netherlands – religious affiliation took on a new quality among the inhabitants. Within these countries a reasonable number of respondents disconnected "being Catholic" from being a member of the actual church. They became "cultural Catholics" or –maybe more precisely– "cultural Christians". For them, giving the affiliation "Catholic" in surveys is a statement about belonging to the cultural identity of their country of residence or upbringing. When asked whether they *feel* like they belong to the Catholic Church, the answer is no. When asked for formal membership, it is no again. However, when asked for a Catholic national heritage, their answer to "Catholic" is yes. This is a very plausible pattern. It reflects a heavily secularized population looking for answers on their personal as well as national identity in the light of a growing Muslim minority and a constant stream by media and politicians on the threat of Islamism. David Voas und Steve Bruce discussed a very similar effect for the heavily disputed British census on religion in 2000. In this census, about 70 % of the respondents identified as "Christian", an astonishing difference to all survey results. "Why does the census produce a higher figure than recurrent surveys for nominal Christian identification? Why, when church attendance is higher in Scotland than in England and Wales, does the census show a higher proportion of nominal identifiers in the latter?" They argued that the "answer to both questions is the same: anxiety about national identity." (2004, 23) To what extent these observations on single countries are indications of a general trend towards a changing public understanding of religious affiliation to Christianity remains to be seen. Taking the well-reported weak position of contemporary Christianity on the micro and meso level in many European countries into account, there is a reasonable possibility that the churches not only lost large proportions of their constituency on Sundays and in everyday life.

It might be the case that they also have lost control of the general understanding of Christianity in society and their respective "Konfession" (denomination) in particular. Traditionally, they succeeded to enshrine this understanding in the cultural system of society. Today, the cultural meaning of religion in its historically dominant form becomes disconnected from existing ecclesiastical bodies. Thus, the cultural understanding of religion is open to redefinition. In search for viable collective identities, other actors of current societies like politicians, parties or media reinterpret "Christianity". Where this is true, people reflect this shift in their personal perceptions and identifications, too. This has consequences for surveying religious affiliation. A new subtype of objective belonging can be observed when the question wording allows for this. For example, the 2013 ISSP survey on Belgium offered the answer options "Chrétienne mais non catholique". Translated to the answer behaviour of individuals, this recent shift on the cultural system level means for Europe: Some people start to identify with a country's religious tradition without religious belonging in its traditional understanding and without believing. In short, religious identification without belonging and without believing.

5 Data Quality Assessment and Estimates by Algorithm: the SMRE-Approach

The theoretical clarifications are indispensable for coming to terms with the discrepancies within the various data sets available. As most surveys and scholars do, the SMRE-metadatabase, its data handling and its estimates use the "objective definition" of religious affiliation. There are good reasons for this decision. The understanding of religion as an exclusive membership role is deeply rooted in European religious history in East and West. It has strong roots in the cultural systems of European societies, even where secularisation made heavy inroads. Within demographical studies and the statistics of religion, it is a commonly accepted, although rarely reflected technical term. It allows for considering religion as a central element of a given social structure on the macro level by aggregating religious groups into larger categories called religious traditions. As such, religious affiliation is a highly relevant political category in many countries of today. There is a prevalent tendency that in many cases this kind of religious affiliation constitutes clear and exclusive boundaries or may even be used to construct them (anew).

The data quality assessment to be described in this paragraph is based on the notion of objective religious affiliation. However, the metadatabase itself holds data on both sorts of definitions. They are retrieved when all available data sets are listed by the output-

tool. In fact, in the process of data evaluation the question "Which definition of religious affiliation is used in a given data set?" itself was important and sometimes hard to clarify. As far as possible, we based our decisions on the wording in the original questionnaires, where available and possible in the vernacular language. Analysing the questionnaires in the vernacular language is very important – those are the questions and answers the respondents were given. Both the questions and the answer options were taken into account. This is important because sometimes the question wording itself does not allow deciding which definition is used. In many cases, looking at the answer options indicates what understanding of religious affiliation is presented to the respondent and which direction the respondent was pointed towards. In practice, the wordings used show some graduation running from a straightforward objective question type as applied in *EVS* or *Special Eurobarometer* to a deliberately subjective version as in most ESS country surveys.[6] Moreover, wording is crucial to censuses as well. Whilst censuses in the 19th and 20th centuries – with the notable exception of political distortions under authoritarian regimes – proved to produce rather reliable expressions of religious affiliation, this is no longer true for the 21st century. To an unexpected degree, censuses come with flaws in its techniques that result in misrepresentations or an unacceptably high rate of non-response. For example, this is true for the British census (no differentiation within Christianity available), the German census 2011 (no numbers for smaller religious traditions, especially for Muslims, available) or the Czech census 2001 (crude wording of the respective question titled "Religion, belief of without denomination" which measures more belief than religious affiliation).

Wording is not the only problem, when it comes to measuring religious affiliation. Conrad Hackett reported on the experience gained by Pew on the general measurement problem (2014). In addition to definition and wording, he pointed towards effects of incentives and social desirability, consequences of mode effects, i.e. technical aspects of how a survey has been conducted, the possible liminal and/or salient character of a respondent's reporting on the question of religious affiliation, and contextual effects like sudden political events or longstanding legal arrangements like church tax systems. The question of answer stability of respondents across different instruments and across time is also a relevant question (Voas 2014, 117 on Britain using panel data). Moreover, when it

[6] The master questionnaire of ESS uses the following phrasing: "Do you consider yourself as belonging to any particular religion?" In addition, it explains in a footnote: "Identification is meant, not official membership or denomination". However, on the country level some national modules of ESS diverge from this general specification.

comes to international cross-country measurement it is an additional task to think about the measurement concept used to obtain comparable and reliable data. “To be useful comparative survey research needs to […] achieve functional equivalence across surveys.” (Smith 2017, 167; see also Hoffmeyer-Zlotnik and Wolf 2003)

Generally speaking, the reported problems are part and parcel of the general methodological challenges of survey and cross-country research. The most recent approach to coming to terms with them is the “total survey error theory” (cf. e.g. Biemer 2011; Smith 2017). This approach covers a wide range of possible errors occurring in the process from conceiving a survey, conducting a survey and preparing survey data for subsequent analysis. It integrates the classic question of sampling errors with more diffuse non-sampling errors. Among the latter are questionnaire problems such as specification errors, which we elaborated on at the beginning of this section. Another common problem is non-response (on the level of unit and item nonresponse). Data-processing-errors are an underestimated source of errors. “Data-processing error includes errors in editing, data entering, coding, weighting, and tabulating of the survey data.” (Biemer 2011, 12). We used the total survey error theory as a general approach reflecting the insight that every survey may have some sort of error. So far, the total survey error theory cannot give a unified expression for “total error”. However, this approach is most helpful to consider all relevant categories of potential errors (Schnell and Kreuter 2000).[7] In the SMRE-metadatabase, the error categories are used to categorize the data sources included. This categorisation is a prerequisite for our sorting out routines of deviating sources.[8] The SMRE-metadatabase builds upon this total survey error approach to achieve its estimates.

Generally speaking, the SMRE procedure for estimating the distribution of religious affiliation combines an analysis for sources of error with an algorithm, i.e. an automatized process of the SMRE-metadatabase, to estimate the distribution for each

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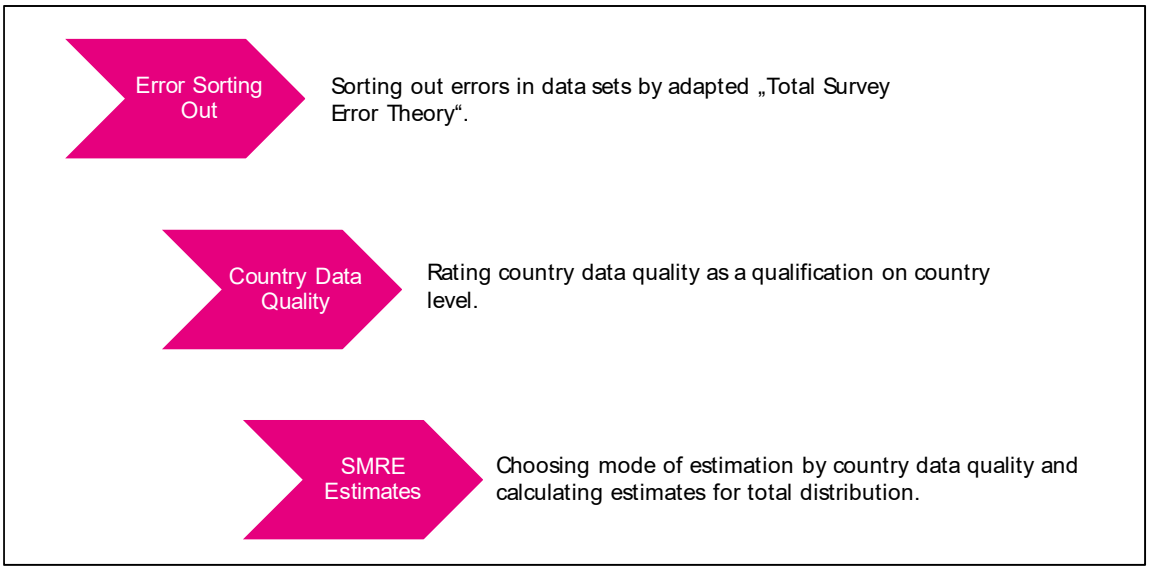
7 Schnell and Kreuter (2000) demonstrated quite early, how difficult it is to identify the source of error. They faced the problem of two almost identical surveys with significantly differing rates of victimisation. (“Zwei 1997 in der Bundesrepublik Deutschland erhobene sehr ähnliche Viktimisierungssurveys (gleiche Grundgesamtheit, gleiches Institut, fast gleiches Design, teilweise identische Interviewerstäbe, identische Operationalisierung etc.) zeigten so deutliche Unterschiede in den geschätzten Opferraten, dass selbst um Klumpeneffekte und Designgewichte korrigierte Konfidenzintervalle signifikante Unterschiede zwischen den Surveys indizieren.” 96) They only possible solution to this puzzle was interviewer behaviour triggered by different restrictions on time and resources to do the interviewing.

8 In the light of the total survey error theory and the many possible flaws indicated by it, we decided to take results of representative surveys as (rough) estimates for the total population regardless of their different margins of error or of age restriction of the persons surveyed.

country in both periods. This general description needs some more detailed explanation, which is directed towards the more technical interested reader.[9] Readers pleased with these general remarks may go directly to the reported results (Section 6).

The SMRE-process of obtaining estimates rests on the principle that all our estimates results from a comparison of all available data sets for each country. As such, the SMRE does not create new data sets by changing, correcting, adopting or interpolated data on the level of the original sources. We do not alter the data collected as such or recombine them individually. Instead, the SMRE-approach starts from comparing the different data sets country by country. The prerequisite for such an approach is to collect as many data sets as possible and to evaluate them individually as well as comparatively by using a standardised process (Fig. 3).

Figure 3: Overview SMRE-process of data processing



Source: own figure.

Verification and Data Cleaning: "Error Sorting Out"

The process starts with a phase of data verification and data cleaning. All data included in the SMRE-metadatabase went through this procedure. The *first step* is to double check whether a data set includes primary data or whether it is a copy taken from another

[9] Even further technical documentation is presented in the appendix, including a list representing all steps of the estimation process for each country in both periods (when available).

dataset. The *second step* is to make the data comparable: For this reason, all categories in a dataset are mapped into eight generic categories of religious affiliation, namely Catholic, Protestant, Orthodox, other Christian, Jew, Muslim, No religious affiliation and other.[10] The *third very important step* of data cleaning is to check all available sources for various sorts of errors as named by the total survey error theory. This evaluation of all data sets is called "Error Sorting Out". The SMRE-metadatabase checks for the following potential errors: Sampling errors, non-sampling errors namely: Specification errors (caused by the concept of questionnaire and/or the answer options or by the translation), measurement errors, frame errors, nonresponse errors or data processing errors like coding failures or data table errors. Some of the error evaluation is done by the SMRE-metadatabase automatically. The metadatabase double- checks e.g. automatically whether the original source reports a distribution which comes up reasonably close to 100 percent (quite a reasonable number of data sets do not!)[11] or whether the non-response category is exceeding certain levels[12]. Some of the error elimination procedures cannot be done automatically. This is especially true for the analysis of the specification error (i.e. questionnaire wording). Here, prudent judgements are required to determine how the data and the way they were polled fit together.

The data "Error Sorting Out" process brings down the number of data sets to that group of data sets, which are valid expressions of the intent to measure religious affiliation in its objective sense without errors. The result of our data cleaning leaves us with a comparable and robust collection of data sets to be analysed further.

Country Data Quality

The remaining data sets are subsequently compared for each country. By doing this, we establish a qualitative benchmark of country data quality. If there is more than one data set available for a given country in a given period, the SMRE applies a robust test of data consistency developed already in phase I of the project (Liedhegener and Odermatt 2014, 140). It leads to a degree of country data quality. The question is whether the available data sets are congruent in the dimension of homogeneity or rather diversity of religious traditions in the country under investigation. To do this, some indicators were employed.

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[10] An explanation as to how these categories were constructed is given later.
[11] The defined threshold value is +/- 3%-points. Thus, all datasets that do not sum up to a value between 97% and 103% will be sorted out.
[12] For censuses, the SMRE excludes a census in case the non-response category is above a threshold of 12.5 percent. The threshold was defined by comparing the range of these categories across censuses. Thus, the non-response rate was kept in a reasonable low range and its value could be entered into the SMRE.

The most important indicator for rating the country data quality is the consistency of all data sets on the *degree of pluralisation* in a given country. The SMRE checks for three different degrees of pluralisation. A dominant religious tradition (including the no religious affiliation-group) exists if the largest category of religious affiliation is equal to or more than 60 percent within the population. If no group is larger than 60 percent and one or more groups are equal to 35 percent or more, the country will be classified as "pluralised". Finally, if all categories are below 35 percent, the country will be classified as "fragmented". According to historical knowledge and previous research, the three categories of dominant, pluralised and fragmented correspond to socially and politically quite different patterns. In a dominant situation, the respective religious tradition will shape the social reality of religion by sheer number and may even entertain a strong relationship with the polity and national identity. In a pluralised situation, no single group really dominates. The range from 35 to 60 percent pretty much reassembles a situation known from many European countries, which were historically shaped by a cleavage between two or three more or less equally strong churches or traditions of Christianity. Finally, the fragmented situation leaves no single religious group with a decisive size in comparison to all others. Thus, the fragmented situation comes close to a free-market competition with a reasonable supply of religions from different stocks.

To a certain degree, such a categorisation is sensitive to the number of categories employed. The most important requirement for a categorisation of religions is that the main categories are suitable aggregations of the religious situation on the ground. In a global perspective, it might be helpful to distinguish "Christians" from other so-called world religions (as the World Religion Database does). However, for Europe the category "Christian" is much too broad to offer substantial information on a particular country and the role of different religious belongings. Here we need to be more specific about the existing religious traditions. Maoz and Henderson (2013) addressed this question top down by starting from academic expert judgements on the relevant religious categories. The SMRE used a bottom up approach for this problem by comparing and aggregating the categories from existing data sources.[13] In both cases, the result is very similar. For Europe, the relevant categories in alphabetical order are Catholic (mainly Roman Catholics, united rites), Jew, Muslim (including Sunnis, Shiites and Bektashi), No religious affiliation (indifferent; agnostic; atheist); Other Christians (congregational

[13] The SMRE-metatdatabase offers a rollover functionality in its country tables. With this function, the user can investigate which possible smaller units are behind the aggregated percentages shown.

chapels, younger Christian denomination), Other religions (residual category; mostly other world religions), Orthodox (all Eastern autocephalous churches resulting from the first permanent Christian schism in 1054) and Protestant (all new confessions and churches of the reformation times and its direct descendants).[14]

Based on these eight major categories, the SMRE-algorithm starts to calculate the degree of pluralisation for the biggest and second biggest categories for each country in each period. By comparing the degree of pluralisation of different datasets we can check if there is a "Classification Error" (degree of pluralisation in the biggest or second biggest category is not the same overall) in the data collection or not.

Further indicators for the calculation of the country data quality are: c*ensus availability*[15], *standard deviation* in the biggest and second biggest category and the *Herfindahl-Index.* These indicators lead to quite a robust picture of the consistency and thus the data quality on the country level. Depending on the degree of consistency within data and conflicting information within the data sets, or in case only one data set or no data set free of errors is available, the algorithm automatically gives back four levels of data reliability on the country level: reliable, probably reliable, problematic and data not available.[16] These categories do not tell us anything about the quality of the particular data sources used. They are, rather, a qualification applying to the country under investigation. It is an evaluation at the country level.

SMRE Estimates

Based on the classification of country data quality, the algorithm proceeds to calculate its final numerical estimation. The distribution shown as SMRE-estimates originates from different pathways of producing estimates based on the particular level of country data quality. When country data show a high degree of data quality (*reliable* or *probably reliable*), the algorithm uses a "Mean Value Procedure", calculating estimates using the average of all data sets available (without any error!) or census data (if available). If the data reliability is *problematic*, the algorithm uses a "Best Data Set" selection command. Apart from the easily handled cases where only one data is set available, the algorithm needs additional information on how to select the best data set. This information was provided by rendering parameters. The actual parameter values were provided by the

[14] For the mapping of the most common groups, see Appendix.
[15] I.e. availability of a reliable traditional census. It is rightly understood in the field that good census data do offer more accurate figures than surveys. See e.g. Hackett 2012.
[16] For the detailed classification process of country data quality, see Appendix.

SMRE-team after checking out these particular cases in more detail. The parameters used for choosing the "best data set" are (in this order): *traditional objective religious affiliation before cultural understanding of religion*[17], *measurement before estimation*, *coverage of minorities*, *completeness of categories*, *data set close to 2000 or 2010*, *availability of a country-specific expert estimation*, *plausibility of data in comparison with second period (if data quality is better)*.

The final algorithm and its specific steps are quite sophisticated (Fig. 4). All details of the algorithm including the path of decision-making for each individual country are documented in the Appendix.[18]

After having done all this, the SMRE-metadatabase looks like this: It includes data on 50 European and neighbouring Eastern states. Data are available for two periods, 2000 (sources from 1996 to 2005) and 2010 (sources from 2006 to 2015). It contains more than 700 data sets offering statistics on the distribution of religious affiliation according to eight generic religious categories. In addition to the actual numbers, it provides data descriptions for each of the data sets.[19] For each country and each period, it indicates the degree of country data quality. Based on its algorithm, the SMRE-metadatabase gives robust qualitative country categorisations for the degree of pluralisation and the largest religious group, mostly in the form of maps and tables. Finally, it presents percentage distributions on religious affiliation from all sources evaluated together with its final numeric SMRE-estimates.

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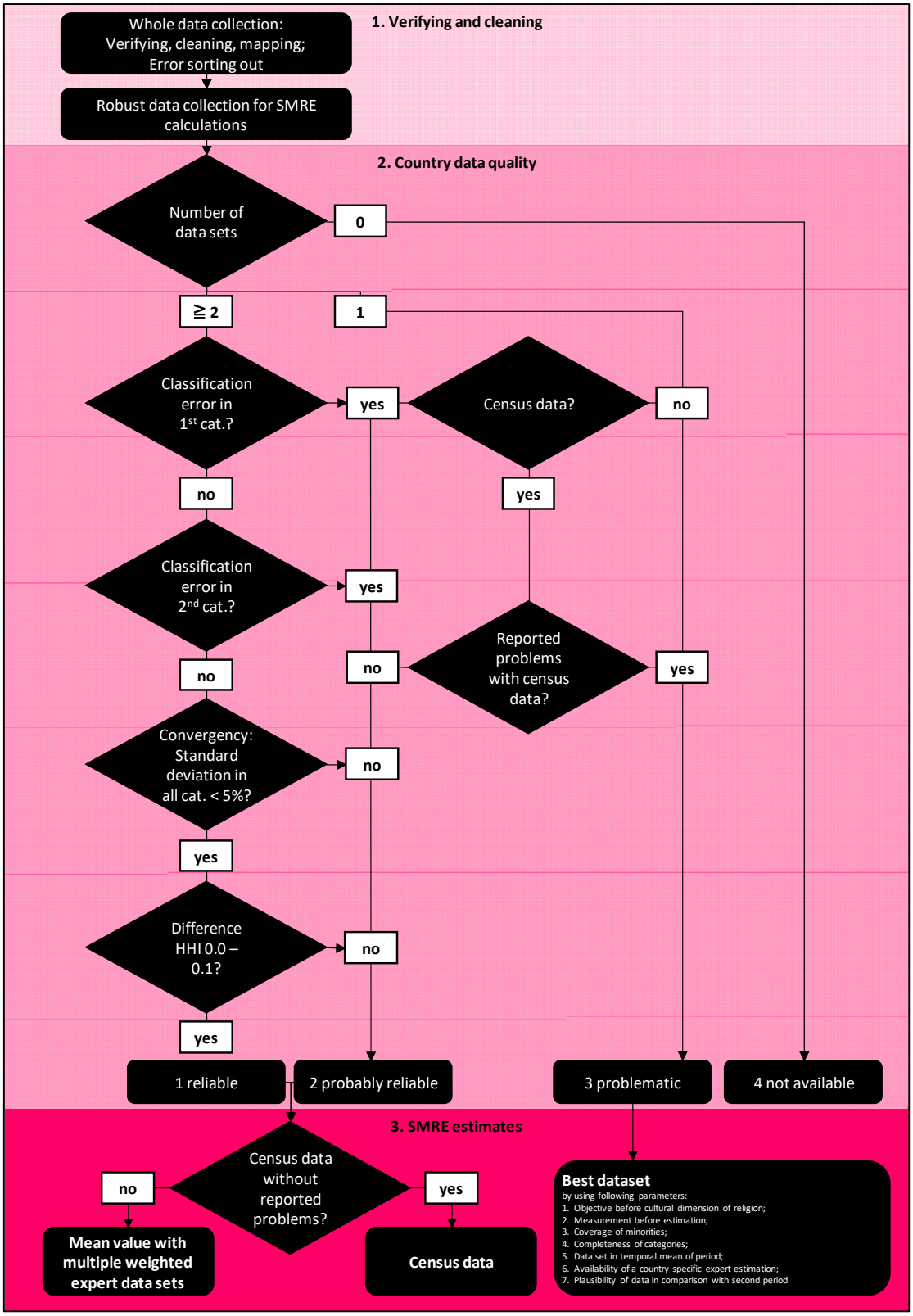
[17] On this recent problem in survey research on religious affiliation, see pages 20-21 above.

[18] There are additional sophistications in this algorithm. The algorithm checks for time trends in the data before calculating averages. In the case of the percentages of minorities, it corrects for the notorious bias in surveys on religious minorities by using expert datasets on these minorities and weighting them multiple times according to the number of surveys available. Typically, this improved our estimates on Muslims in particular. Finally, the SMRE automatically rescales the distributions derived from the Mean Value Procedure to 100 percent if necessary.

[19] These data descriptions are done with as much care as possible and to the best of our knowledge and certainty, especially when it comes to question wording and answer option. However, in the light of restricted resources, existing confusing data descriptions and the many languages involved, these descriptions can never be exhaustive compared to the whole range of criteria offered by the total error survey theory.

Figure 4: SMRE-algorithm



Source: own figure.

A comparison between the SMRE phase I and the current SMRE-metadatabase from phase II demonstrates the achievement in terms of data amount and data quality (Fig. 5).

Figure 5: Number of countries and data quality by period
(comparison of SMRE country data quality ratings in phase I and phase II)

		Reliable	Probably reliable	Problematic	Not available	Total
SMRE-metadatabase						
2000	No.	10	21	17	2	50
	%	20%	42%	34%	4%	100%
2010	No.	3	29	18	0	50
	%	6%	58%	36%	0%	100%
Total	No.	13	50	35	2	100
	%	13%	50%	35%	2%	100%
SMRE phase I						
2000	No.	9	16	8	9	42
	%	21%	38%	19%	21%	100%
2010	No.	12	12	5	13	42
	%	29%	29%	12%	31%	100%
Total	No.	21	28	13	22	84
	%	25%	33%	15%	26%	100%

Source: SMRE – own calculations for both phases.

The number of countries covered rose from 42 to 50 (i.e. officially recognized state territories including Kosovo). From SMRE phase I to SMRE phase II, the countries with no data available declined significantly. In phase I, there had been 9 countries in 2000 and 13 in 2010 without possible data estimation, overall a share of 26 percent. Now, on the basis of the SMRE-metadatabase from phase II, the number of countries without data is very small for 2000 and zero for 2010. Although, due to more rigorous data evaluation and a higher chance of contradictory evidence in the larger amount of data sets, the number of countries in the reliable category declined compared to phase I, the main result is that the estimates for 50 percent of all states are now probably reliable. The share of problematic cases is at a third, indicating a remaining uncertainty for these countries. Overall, the percentage of countries with reliable or probably reliable estimates is up 5 percentage points from 58 % to 63 %, whilst the percentage of countries with no data available went down from 26 % to 2 %. We see this as a substantial improvement. In phase I, a comparison across time by using period 2000 and 2010 was beyond reach. Now, we can do exactly this. And we can do it at least with some confidence.

6 The Long Shadow of Religious Legacies in Europe and the EU – and Its Current Fading: Religious Traditions as a Component of Social Structure

Almost everybody has at least a rough idea about the distribution of Christianity and Islam across Europe. There is a Roman Catholic Central and South-West, a Protestant North and an Orthodox East, which is bordering on the Muslim Turkey, the successor of the Ottoman Empire. Some countries are confessionally mixed countries like Germany, the Netherlands or Switzerland. In a much-quoted article, Seymour Martin Lipset and Stein Rokkan (1967) linked this historic religious substructure to the political conflicts and the emergence of modern political party systems in Western Europe in the 19th and 20th centuries. More recently, John Madeley (2003) picked up this approach. In a brilliant article, he suggested a model, which extends the idea of Lipset and Rokkan to the continent after its reunion in 1990. Based on data by Barrett, Kurian and Johnson (2001), he pretty much replicated the old picture for Western and Northern Europe and added an Eastern Orthodox "historic mono-confessional culture bloc" (31). Along the fault lines of these blocs, he depicted two zones of multi-confessional belts separating the blocs. Interestingly, he included Great Britain and Ireland in toto into the belt that separates the Protestant North from the Catholic South. This picture of the religious landscape certainly has some truth in it. As we will see, much of it can be seen in our SMRE-data. However, there are some remarkable differences to this picture. For our first period 2000 (1996-2005) differences result from countries with higher shares of people reporting no religious affiliation. Using our estimates for the most recent period, the map of religious affiliation in Europe reveals some important new facts.

To recap our starting point, the project's definition of religious affiliation and all our subsequent calculations are based on the concept of religious affiliation as a property of the social structure on the macro level. The objective definition of religious affiliation in the meaning given depicts this type of religious belonging as something which is in principle similar to a kind of membership role. "Objective" religious affiliation is institutional or formal belonging. Data on this formal version of religious belonging may include personal identification, but the data itself do not reveal this. In addition, data on objective religious belonging may include some form of cultural belonging in some countries where religion conflates with national identity, a problem we included in our

algorithm.[20] In order to not distort our findings with mini-states, we based all calculations on the 44 larger states, thus excluding Andorra, Liechtenstein, Monaco, San Marino, Vatican City and finally Kosovo, because we do not have data on this territory in 2000.

Overall, our map for 2000 (Fig. 6) reflects the territorial pattern described above.[21] It reflects the long-lasting shadow of a religiously split continent. The legacy of Europe's religious history is present when charting the largest religious category of each country on the map. But it is clearly not a map of, say, 1900. There are countries with a majority of its inhabitants belonging to the category "No religious affiliation". From West to East: Great Britain, the Netherlands, the Czech Republic, Estonia, Latvia, Belarus and Russia. Germany comes as a surprise, because Catholics are the largest group in 2000. Historically, Germany has been a religiously mixed country with a strong majority of Protestants for centuries. Muslims make up the largest category in only three countries on the map.[22] These are Bosnia and Herzegovina, Albania and Turkey.

Our map for 2010 (Fig. 7) depicts some significant changes. In France, the category of No religious affiliation became the largest group. The same is true for Germany, indicating that the relative Catholic majority was a temporary result of the more rapid decline of church membership in the Protestant churches in Germany. But Catholicism is on the retreat in Germany too. The picture can be nuanced when looking at the East and the West separately – which is possible with the SMRE[23] –, because each part of Germany experienced a very different type of secularisation between 1918/45 and 1990. The same category becomes the largest in Hungary in 2010, too.

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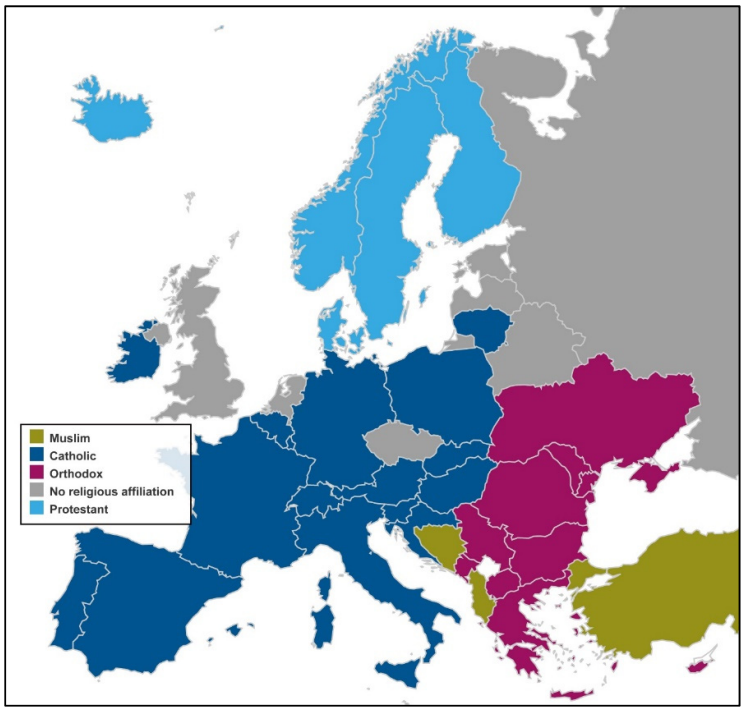
20 We came across this fact in our many data on France and Belgium. Some surveys added new answer options allowing to explicitly identify as Catholic without being a member of the Catholic Church at all. These are "cultural Catholics" in the sense that they do not see themselves as members of the traditional church and that they do not hold a personally relevant identification with the Catholic tradition or faith ("subjective religious affiliation"), but state "Catholic" to express their autochthonous upbringing – most probably as a feature to distinguish themselves from the more recent Muslim immigrants who by upbringing and definition will not fit the culturally Catholic Belgian image.

21 For a table with detailed statistics for each country see Appendix.

22 In our data, we have four Muslim countries, because Azerbaijan is in the sample, but due to the technical specifications of highcharts.com, it is not on the maps. All statistical analyses are based on our 44 country data set.

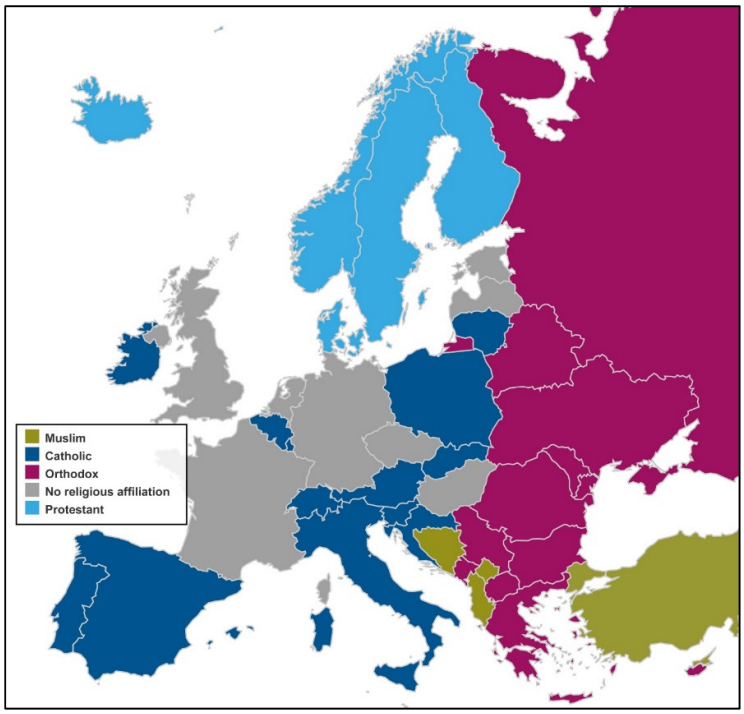
23 For internal consistency of our comparison, we confined our analysis to the national level. For three prominent cases – Germany, Great Britain and Cyprus – the SMRE-metadatabase gives statistics on the subnational level. For Cyprus we used the data on Cyprus South to be consistent with EU statistics (According to international law, Cyprus North is also part of Cyprus and thus of the EU). – In general, we are well aware of the need to do more research at the sub-national scale (NUTS 2) and to collect respective data to come closer to the regional distribution of the major religious groups, especially in religiously mixed countries. Due to this lack of data, John Madeley could not give proper numbers for the two belts of religiously mixed areas drawn on his map (2001: 28).

Figure 6: Largest religion in 2000 by country



Source: SMRE estimates 01/18, www.smre-data.ch; Map: www.highcharts.com.

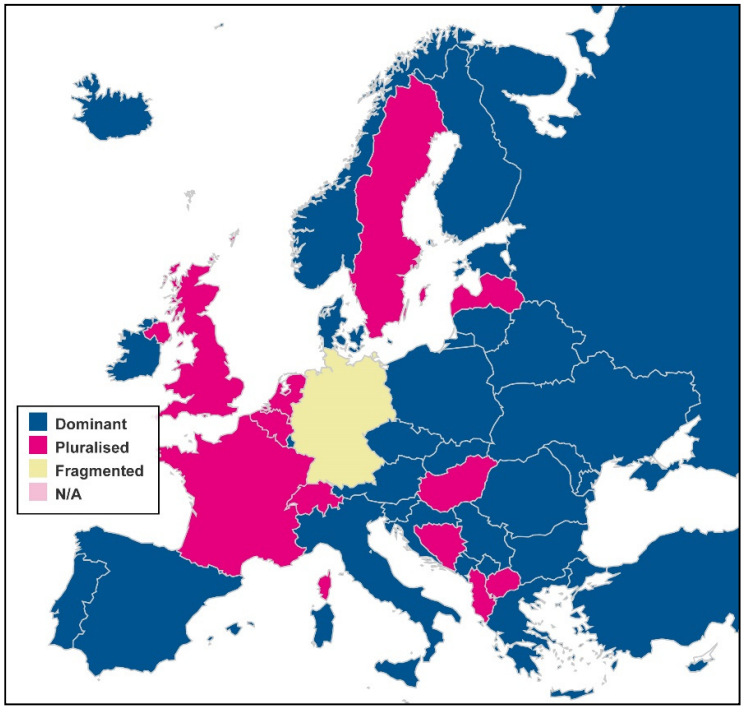
Figure 7: Largest religion in 2010 by country



Source: SMRE estimates 01/18, www.smre-data.ch; Map: www.highcharts.com.

Using this very basic indicator of largest religious category, the map indicates some shift towards the secular end across Catholic and Protestant traditions. In the Eastern part of the map Belarus and Russia changed colour, too. However, in these cases the respective largest category changed from No religious affiliation to Orthodox. This result may be of some surprise, because it runs against the standard current observed before. Yet, it fits well with more recent research on Russia and some other Orthodox countries in general, which indicates a politically-induced revitalisation of Orthodox Church membership (Cooperman, Sahgal, and Schiller 2017; Pollack and Rosta 2015, 252-288).

Figure 8: Countries by degree of religious pluralisation in period 2010



Source: SMRE estimates 01/18, www.smre-data.ch; Map: www.highcharts.com.

The degree of pluralisation measured by our three robust categories "dominant – pluralised – fragmented" sheds some additional light on the religious map of Europe (Fig. 8). Countries in Southern, Northern and Eastern Europe mostly show a solid blue, indicating that the largest group takes a share of 60 or more percent. Pluralised countries show some concentration in Western Europe, but Sweden – a long-time heavily Protestant country –, Latvia, Hungary, Bosnia and Herzegovina, Albania and Macedonia

are also pluralised. In addition, there is an important difference within the group of pluralised countries. In most of these countries, the largest and second largest group are a combination of the traditional dominant religious tradition and the segment of No religious affiliation. Bosnia and Herzegovina and Macedonia are clear exceptions from this rule. Bosnia and Herzegovina is Muslim-Orthodox, Macedonia is Orthodox-Muslim, indicating a traditional situation of a religiously mixed country.

Finally, Germany stands out. Assessed on the national level, Germany is the only European country with a fragmented religious situation thus far. In period 2010, no religious category reaches a share of more than 35 percent of the population. The same is already true for period 2000. In 2000, Catholics represented the largest group, in 2010, it is No religious affiliation. Together with the formerly dominating group of Protestants, all three categories take a share of around 30 percent. However, all things being equal, in the decade to come Germany might re-enter the pluralised group, because the share of No religious affiliation is continuing to grow.

Figure 9: Largest religious group and degree of pluralisation by religious affiliation in 2010

(absolute numbers and in % of all 44 states)

Degree of pluralisation	Catholic	Protestant	Orthodox	other Christian	Jewish	Muslim	no religious affiliation	Others	Sum
dominant (>= 60 %)	12 (27,3)	4 (9,1)	12 (27,3)			2 (4,5)	2 (4,5)		**32 (72,7)**
pluralized	2 (4,5)	1 (2,3)	1 (2,3)			2 (4,5)	5 (11,4)		**11 (25,0)**
fragmented (<35 %)							1 (2,3)		**1 (2,3)**

Remark: n = 44 (countries without mini-states and Kosovo); percentages = total sum percentages

Source: SMRE-estimates 01/2018.

In sum, on the country level we find a situation, which is characterised by a large share of countries with a religious situation where a single category dominates the distribution

of religious affiliation (Fig. 9). Among all 44 states, 32 countries or three quarters show a dominant religious group. 12 of them are predominantly Catholic, another dozen is predominantly Orthodox. Four countries are predominantly Protestant, only two are Muslim or No religious affiliation. Among all states, only a quarter show a pluralised situation, and fragmentation is a rare exception even today. Among the pluralised countries, five are pluralised with the No religious affiliation-category as the largest religious group.

The overall interpretation of these descriptive statistics cautions against a single general narrative like a Europe made up religiously of its historical legacies or like Europe as a mostly secular continent contrasting with a sea of religious countries on the rest of the globe. In terms of religious affiliation, it seems more appropriate to think of Europe as a mixture or, even better, a multi-layered composition of strong historical legacies in the substructure of religious affiliation with younger shifts and rifts on the surface of its religious composition. The combination of the two largest religious categories frequently takes on the form of joining the historically prevailing religious tradition and No religious affiliation. The particular mixture varies substantially. In roughly 6 out of 10 European states, the traditional religious category is dominating within the social structure today. For these countries, this may well indicate a conjuncture of religious affiliation and national identity. This is particularly likely at least at the cultural level. However, relevant change took place in many countries. As will be shown in the next paragraph, these shifts are not unidirectional ones today. Before this, we will take a look at some descriptive statistics concerning the EU as the most important inter- and by now also supranational structure of the continent.

Arguments and statistics on religious affiliation are relevant to the debates on the cultural underpinnings and future prospects of the EU (e.g. Gerhards 2006, 2010; Joas and Wiegandt 2005). However, reliable data on religious affiliation for the EU were not available until now. The SMRE-metadatabase allows to calculate estimates for different combinations of EU membership states (Fig. 10).

Religious affiliation on the aggregate level of the European Union shows a consistent pattern across regional groupings and time. Our table reports on the EU 15 and the EU 28 for 2000 and 2010. EU 15 stands for the Western European Union of the 1990s when Austria, Finland and Sweden joined the EU in 1995. EU 28 indicates the current EU after the Eastern expansion from 2004 to 2013 and before Brexit. We used our data on 2000 to

calculate an estimated distribution for the latter configuration, too. Although not being in existence at that time, the distribution for the EU 28-setting offers a helpful comparison.

Figure 10: Religious affiliation in the EU. SMRE-aggregation for the EU 15 and EU 28 in 2000 and 2010

Period	Region	Catholic	Protestant	Orthodox	Other Chr.	Jewish	Muslim	No rel. aff.	Others
2000	EU 15	46%	18%	3%	2%	0%	2%	28%	2%
	(EU 28)	47%	15%	8%	2%	0%	2%	25%	2%
2010	EU 15	42%	14%	3%	3%	0%	4%	32%	2%
	EU 28	45%	12%	8%	2%	0%	3%	29%	2%

Source: SMRE-estimates 01/2018.

Across all groupings and both periods, Catholics are making up a strong relative majority. Although somewhat in decline – especially when examined at the EU 15 level – , the picture is rather stable especially when based on the comparison of the existing EU structures, i.e. EU 15 in 2000 and EU 28 in 2010. Catholics represented 46 % of the total population of the EU 15 in 2000. Their share in the EU 28 in 2010 equals an almost unchanged 45 %. Protestants represented a share of 18 % in the EU 15. Mainly due to the religious composition of the new membership states, Protestants declined to 12 % in the current EU 28. Orthodox EU citizens rose from 3 % to now 8 %, Muslims rose slightly from 2 % to 3 %. The same is true for EU citizens with no religious affiliation. Their share is the second largest in the EU 15 as well as in the EU 28. It shows a slight uptick from 28 % to 29 %. Jews, Other Christians and Others religions remained stable, the latter two at 2 %. Jew communities exist, but they remain a tiny minority in the EU context. Comparing the EU 15 for 2000 and 2010 and EU 28 for the same periods, the data show some trends, mainly a decline in Catholicism and Protestantism and an incline of the No religious affiliation category. Again, the overall picture is rather stable. The EU is heavily Catholic judged by the religious affiliation of its inhabitants. Yet, it is far from being a "Catholic club", as some observers put it. A moderate religious diversity including a relative Catholic majority and a large segment of No religious affiliation is today's EU reality.

7 About the "Pluraliser" and "Homogeniser": Recent Changes and Trends in Religious Affiliation in Europe

We already touched upon tendencies and trends in religious affiliation in the previous section. When it comes to changes in religious belonging, the most frequently used term is "pluralisation". This term is indispensable, yet it comes with some problems (Beckford 2003, 2014; Liedhegener 2018; Pickel, Yendell and Jaeckel 2017). First, the term can carry different meanings or judgements. In particular, pluralism and pluralisation are interrelated and both can be used as a descriptive term and as a normative term in social science. Pluralisation as a normative term is linked to an idea as to how diverse societies can or should function. Pluralisation leads to pluralistic societies based on human rights, civil society and liberal democracy. In short, concerning religion, this implies that a free and democratic society is based on the common sense of its members that no single normative concept of a good life can or should be taken as a general principle for living together. This contradicts all religious aspirations to make a certain belief, creed or truth compulsory. In liberal democracies, human and basic rights and in particular the right of freedom of religion are institutional guarantees to achieve a peaceful way of life in society in the face of religious and philosophical diversity.

As a descriptive term, it addresses solely the change of number of units and shares of units related to a given entirety. Based on the descriptive term, pluralisation means the growth of diversity by number of units and/or by a shift within the given distribution to a more diverse and/or a more equal distribution of the shares between the categories involved. In terms of religion, pluralisation as a descriptive term implies the idea or thesis that a given entirety becomes more diverse. Pluralisation indicates a direction of change in time. The opposite of this is homogenisation. Currently, in social science, pluralisation as a concept, implying a direction of change, is itself linked with more general theories about religion and the change of religion (Pollack, Müller and Pickel 2012). Secularisation theory sees religious (and philosophical) pluralisation as a driver for the decline of the social significance of religion in society. In sharp contrast, the market theory of religion links a growing pluralisation to a better supply of religious alternatives to the religious customers. Pluralisation indicates more competition in the religious market and more competition should foster religious vitality. Individualisation theory holds a middle ground, stressing the stimulating role of pluralisation on the macro level to allow for individualised expressions of religion and faith on the micro level.

However, researching religious pluralisation is more complicated than these general definitions indicate. James Beckford differentiates between three meanings of religious diversity and pluralism in the descriptive sense. First, the variety of different faith traditions and their distribution in a given society. Secondly, diversity within distinct faith traditions. Thirdly, the differences among the believers in the degree of congruence with religious norms and practices of their faith traditions. Beckford's basic distinction correlates with religious diversity and change on the macro, meso and micro level. His conclusion indicates one of the existing problems of research in religious pluralisation: "Devising empirical indicators and measures of these three dimensions of religious diversity is not easy, but I believe that this should be a priority for sociological research on religion." (2014, 22)

On the macro level, one way to measure diversity or more precisely homogeneity of a given distribution is to use the Hirschman-Herfindahl-index (HHI). The HHI in its most basic form calculates the degree of concentration by adding the squared proportions of all categories of a given distribution. The index equals "1" if a distribution is completely dominated by the share of one large category. It takes on its lowest value if the shares of all categories are evenly distributed. In consequence, its lowest value is a function of the number of categories involved. In case of eight categories – as it is the case in the SMRE data – and a supposed equal distribution of 0.125 for each category (i.e. 12.5 percent each), the lowest value of the HHI equals 0.125. Within this range of the HHI of 0.125 to 1, moving up towards 1 means concentration and moving down towards the lower end of 0.125 means pluralisation. We will use this index to analyse our SMRE-country data by means of explorative data analysis later.[24]

The use of the HHI or its derivatives became substantially disputed in the field of empirical studies on religion (Voas, Olson and Crockett 2002). This indicates that the HHI has to be used with some caveats. The main critique was that the HHI cannot be used as an explanatory variable for religious pluralism and religious practice or participation in statistical models. Based on simulation models, Voas, Olson and Crockett found that the HHI is confounded with measures of participation like church going via the number of religious groups involved in the sample. However, this critique is more

24 In empirical studies of religion, many scholars prefer to use some sort of derivative of the HHI, mostly the Diversity-index, calculated as 1-HHI. For more details, see Wolf 2012. In our understanding, it is the most convenient way to stick to the original concentration index. The derivatives do not offer additional information, but may cause some confusion because it is easy to overlook that now the maximal value of the derivatives depends on the number of categories.

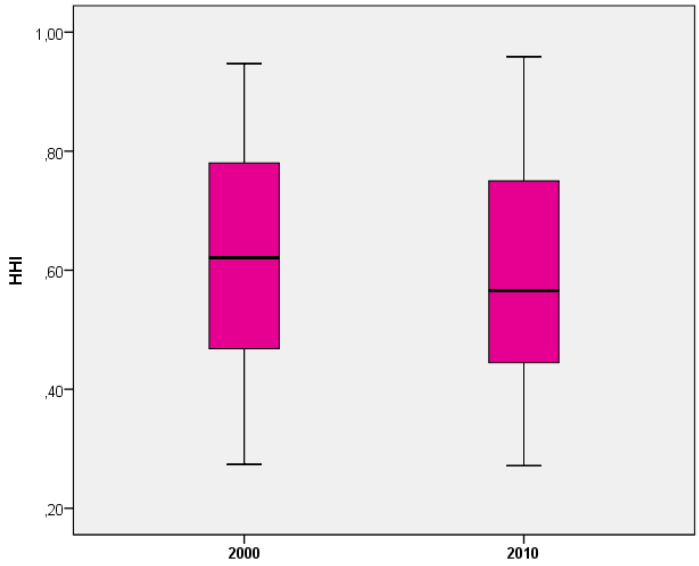
about the use of the HHI in explanatory approaches to religious change than about the HHI itself (Wolf 2012). Historically speaking, the HHI originates from economics. It provides a measure of the competitiveness of a given market with a known number of competitors or categories of competitors, which is easy to calculate. In the context of sociology of religion, Christof Wolf demonstrated that the HHI is most sensitive to the shares of the largest religious categories (2012, 25-27). From a certain point onwards, expanding the number of categories (for example, by disaggregating the Others category into smaller units) does not lead to a substantial change in the HHI. Its magnitude remains more or less the same.[25] In terms of religion, Wolf also argued that research should only use standardised categories for cross-country comparison, including the category of No religious affiliation. The SMRE-data and our following analysis conform to this recommendation.

Yet, another last remark on the qualities of the HHI is needed. What does the actual value of the HHI really tell you about religious pluralisation? We argue that the HHI is only helpful when interpreted in the light of the original descriptive distributions. This is true because the HHI tells you much about the "market structure", and only little about the "individual competitors" and their relation to each other. Translated to the field of religious diversity, this means that the HHI gives only limited information on the realities of the religious distribution itself. Based on comparing our eight categories, a value of 0.3 or less indicates that none of the eight categories are above 50 percent. Helpful information. A value of 0.6 or higher equals a share of 77 percent or more. Also good to keep in mind. However, especially in the range from 0.3 to 0.6 many different distributions can produce similar HHI values. Only from the small range of 0.34 to 0.38 one can conclude with certainty that a country's HHI indicates that the largest religious category is larger than or equal to 35 percent and smaller than 60 percent. These were the criterions for our descriptive categorisation of the degree of pluralisation of a religiously pluralised country. Moreover, some sorts of highly relevant changes go by unnoticed with the HHI. If the largest and second largest group just exchange their respective shares between two periods, i.e. the second largest becomes the largest in period two and vice versa with the same unchanged shares overall, the HHI does not change at all. The degree of pluralisation remains the same although we might consider a shift from, say, a Protestant majority to a majority of No religious affiliation, which is important in terms

25 This effect is due to the small numbers resulting from squaring the already small fractions.

of the social structure. The HHI is not to be blamed for this invisibility in its value. From a "market perspective", the structure of the market did indeed not change, overall competition remains the same although the market leader changed. Applied to religious categories, the HHI measures structures and processes of concentration and pluralisation. It is easy to interpret at the upper and lower end of its scale, but has to be handled with more caution in its middle range. In our case, it proved helpful to add a separate measure of volatility when analysing the HHI and its changes. We measure volatility using the sum of all absolute values of the change of percentage points between 2000 and 2010.

Figure 11: Religious pluralisation in Europe
(HHI in 2000 and 2010)



Remark: n = 44 (countries without mini-states and Kosovo)
Source: SMRE-estimates 01/2018.

Based on our 44 country sample, a box plot for 2000 and 2010 can be used to analyse the HHI across countries and time (Fig. 11). A box plot is a chart that represents the span of the HHI for the total distribution divided by four equally large groups. Thus, each quartile includes 25 percent of the cases. The two inner quartiles are plotted as boxes divided by the median value. The tails or whiskers inform us about the upper and lower quartile (and maybe in addition about extreme outliers with separate dots, which is not the case in our data).

From our box plot, three characteristics of religious pluralisation in Europe are easy to grasp. First, there is an enormous difference within the distribution of the HHI across Europe. There are countries with an HHI close to 1. In Turkey (2010: HHI = 0.96), the concentration is at its maximum, followed by Poland (0.92), Azerbaijan (0.91) and Cyprus South (0.9). Virtually all people belong to a single religious category. Minorities are (socially) inexistent. At the low end, there is Switzerland (0.27), Latvia (0.28) and Germany (0.29). Here, no single religious group or category is dominating. Although categories are far from being equally strong (the lower limit of the HHI is 0.125), in general the situation is pretty much pluralised. Second, there is some change over time. The median moves from as high as 0.62 in 2000 to a lower value of 0.57. Although the total range is virtually unchanged, the inner quartiles move down slightly. Some pluralisation is underway. However and thirdly, this pluralisation is modest. The box plots of 2000 and 2010 still look very similar. In addition, 50 % of all countries show a rather strong concentration of one or two religious categories. This finding is consistent with our results in Fig. 9 on the degree of pluralisation, where in three quarters of all countries the largest religious category included over 60 % of the total population.

The moderate pluralisation measured here leads to the question whether this pluralisation is a consistent trend.[26] Since the SMRE-metadatabase holds data on each country in both periods, we can calculate the difference in their HHI in 2000 and 2010. Statistically, a constant trend would be represented by a declining HHI across all countries.

This is clearly not the case in Europe (Fig. 12). The histogram of the change in HHI shows very different developments. If we take -0.05 and 0.05 as a threshold for substantial changes in the HHI, we conclude that only some countries really change and, more importantly, that they move into different directions. A group of five countries experienced an HHI decline of -0.15 to -0.20 points. Here, religious pluralisation grew substantially. 11 countries saw a somewhat more moderate decline of the HHI (-0.15 to -0.05). A large group of no less than 26 countries remained almost stable over time. Their HHI did not change much. Finally, a group of four countries moved into the opposite direction. Their HHI rose. These four countries experienced some homogenisation in terms of religious affiliation and diversity.

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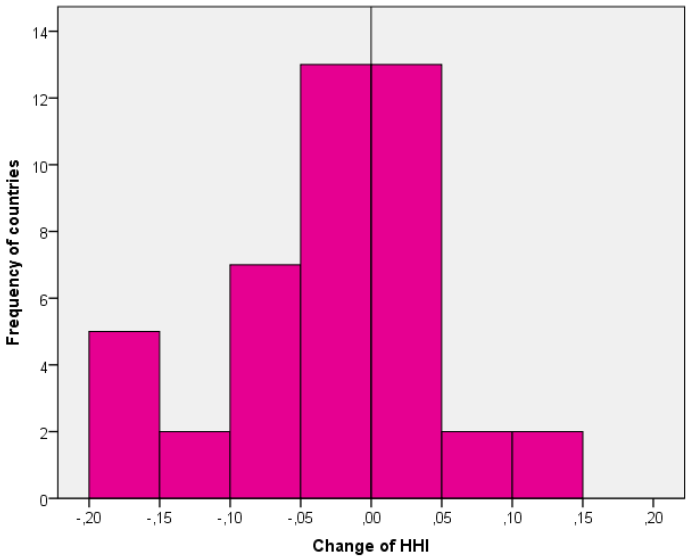
26 We are well aware of the fact that statements about trends should be based on more than two points in time. Yet, at the current stage of research, we only have data on these two periods in time.

Figure 12: Change of HHI across countries from 2000 to 2010



Remark: n = 44 (countries without mini-states and Kosovo)

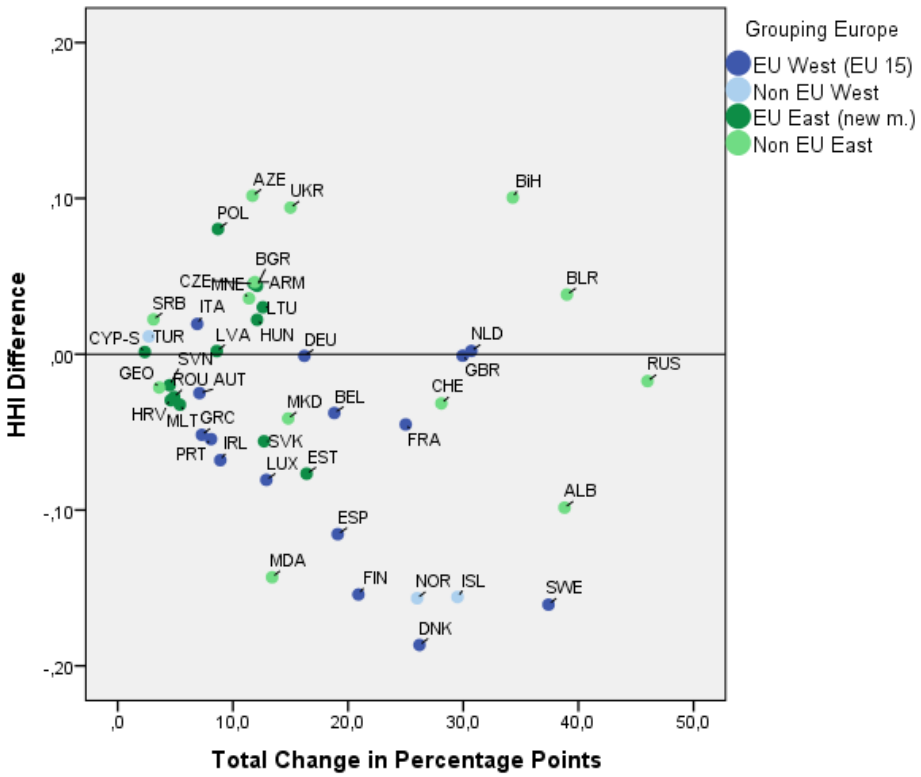
Source: SMRE-estimates 01/2018.

Which countries are the "pluralisers" and which are the "homogenisers" with respect to religious diversity in Europe? Our data report the sharpest decline in HHI for Denmark, Sweden, Norway, Iceland and Finland, listed here in ascending order. This group is a remarkable one. They are all Northern European countries known for a long-standing tradition of an established Lutheran church. Most of them disentangled state and church only recently. The next two pluralising countries are the Republic of Moldova and Spain. These seven countries are the most prominent pluralisers. At the other end of the scale, there are four very different countries, which constitute the group of homogenisers: Poland, Ukraine, Bosnia and Herzegovina and Azerbaijan. All of these homogenisers are Eastern countries.

Finally, a special remark has to be made on Russia. Does Russia not belong to the homogenizers? The maps shown in section 6 indicated a new orthodox majority in 2010 compared to the former situation of a relative majority of No religious affiliation in 2000. In fact, Russia is a prime example for the characteristic or restriction of the HHI to not being able to detect substantial shifts between larger groups when these shifts do not alter the structure of the "competition". In Russia, the largest and second largest religious category just switched places. The No religious affiliation group was reduced from 49.5 % in 2000 to 26.7 % in 2010. The Orthodox category rose from 46.3 % to 60.7 %. However, in spite of this tremendous volatility, the HHI remained almost unchanged

(0.46 and 0.44). Some growth of the religious minorities even led to a slight downward tick. Russia is a fine example, in that the original descriptive distribution is also relevant to evaluate a country's pluralisation. Our robust schema of grading the degree of pluralisation did produce evidence for a trend towards homogenisation in favour of the Orthodox Church in Russia today. This is consistent with Pollack's and Rosta's findings on Russia, who related this shift mainly to political developments under Wladimir W. Putin (Pollack and Rosta 2015). Thus, the substantial change within Russia's religious affiliation should not be ignored. In addition, Belarus – a neighbouring state with a strong orientation toward Russia – shows a similar situation with high volatility and an almost stable HHI. In both cases, the Orthodox tradition benefited from the change in shares.

Figure 13: Change of HHI by volatility of religious affiliation 2000 to 2010 grouped by EU East, EU West and Non EU countries East and West



Remark: n = 44 (countries without mini-states and Kosovo)

Source: SMRE-estimates 01/2018.

Finally, to optimize the analysis of processes of pluralisation we take a look at the combined picture of the change in HHI and the amount of volatility within the distribution or religious affiliation (Fig. 13). As previously mentioned, volatility is the measured sum of changes of all absolute values in percentage points within the total distribution.

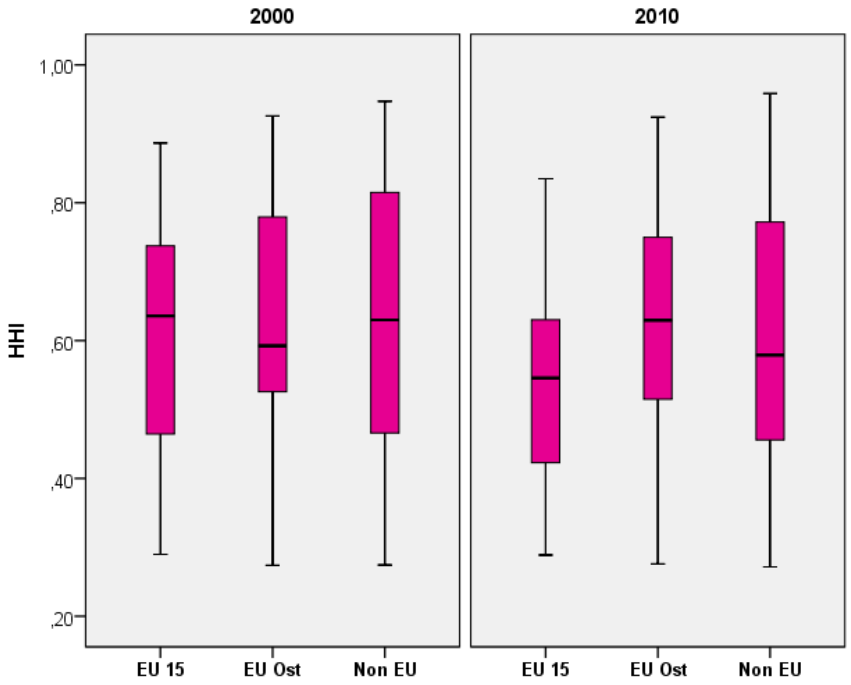
In this figure, Russia and Belarus are apparent as exceptional cases. They show an extraordinary volatility without producing a substantially change in the structure of religious concentration as such. This was demonstrated for Russia in detail above. Yet, in some other cases a heavy volatility corresponds with a strong tendency towards pluralisation. This is particularly true in Northern Europe where the Protestant majority is in decline. On the other end, Bosnia and Herzegovina demonstrate that a considerable volatility can result in a growing homogenisation. Apart from Russia, a considerable degree of change happened in Great Britain, the Netherlands and Switzerland, however the HHI and thus the concentration in religious distribution in general was left unchanged, too. At the lower end, it becomes evident that smaller changes in religious groups can lead to substantial pluralisation or homogenisation. A small shift towards the Catholic Category in Poland led to a growing concentration. Smaller losses in the Catholic category in Ireland and Luxembourg resulted in a declining HHI, indicating a growing pluralisation in these countries.

It is hard to imagine any regularity on the level of the single countries, although further analyses that involve more complex multilevel operations might show some. However, what the data already show on a more general level is this: Western and Eastern Europe are drifting apart (Fig. 14). The same is true for the EU member states in Eastern and Western Europe. They also show a tendency to drift apart. On average, the old EU 15 members show a higher degree of volatility and, even more importantly, a general tendency towards a growing religious pluralisation. The exception to the rule in Western Europe is Italy, as Pollack and Rosta also found (2012). Among the Eastern member states, some correspond to the Western European trend of pluralisation. Countries like Estonia and Slovakia move towards a more pluralised situation of religious affiliation. However, there are other Eastern EU countries like Poland, Hungary and, to a lesser degree, Lithuania which indicate a growing homogenisation in terms of religious affiliation. As a result, the degree of religious pluralisation became more different within the EU in 2010 (Fig. 14). As religion played a noteworthy role in EU scepticism and EU criticism in earlier times (Minkenberg 2009), our findings could and should be related to

research on social conflict in the EU and on the emergence of populist parties in the EU in particular.

Figure 14: Religious pluralisation in EU states East and West and in non EU states East and West 2000 to 2010

(measured by HHI)



Remark: n = 44 (countries without mini-states and Kosovo); percentages = total sum percentages

Source: SMRE-estimates 01/2018.

8 Conclusion and Reflection

Religious affiliation in Europe is changing. However, its change does not fulfil the almost universally agreed-upon expectation of social science or public perception that it is becoming more religiously pluralised (Wolf 2012, 18). In fact, Europe's countries are still rather different among each other in respect to the structure of religious affiliation and the extent of religious pluralisation.

Our first major result focuses on the current structure of religious affiliation in Europe. The analysis of the new SMRE-estimates on religious affiliation in 44 larger European countries reveals today's religious landscape of Europe as a two layered-map. Even after

two centuries of rapid modernization, the upheavals of two world wars, recent waves of immigration and despite all the phenomena indicating a far-reaching secularisation in various countries, most countries still show a dominant religious tradition in their social structure. This situation is true for almost 70 percent of today's European countries. Thus, the first layer consists of the legacies of century-old splits and differences based on religious grounds in Europe dating back to the aftermath of the Reformation and even to the split between Eastern and Western Christianity in 1054. The SMRE-data make the long shadow of Europe's unique religious history visible through statistics. However, in many countries, this shadow is fading or perhaps even disappearing entirely. Starting mainly in the 20th century, processes of secularisation in everyday life gave rise to the number of people stating no religious affiliation in many European countries. Yet, this category makes up the majority of the population only in a few countries. The hot spots of secularisation are, from West to East, Great Britain, France, the Netherlands, Germany, the Czech Republic, Hungary, Latvia and Estonia. Comparing the largest and second largest category of religious affiliation across countries, the dominating constellation is a combination of the historically dominant religious tradition and the younger segment of No religious affiliation. In most countries, the traditional religious category has the lead. Thus, religious heritage and secularisation are the main drivers for the current map of formal religious belonging in Europe.

The second major result concerns the changes in religious affiliation and the process of pluralisation. Compared to the situation in 2000, religious affiliation in Europe is moving into different directions in a considerable number of countries today. Using the Hirschman-Herfindahl-index and a volatility measure to compare the situations in 2000 and 2010, our analysis gives evidence for differing trends between European countries. Whilst a fair number of countries did not change their degree of pluralisation or homogeneity at all, some European countries are clearly "pluralisers". Especially all Nordic countries belong to this group of rapid pluralisation. Yet, at the same time, some other countries became "homogenisers" showing a higher concentration in their structure of religious affiliation in 2010 than in 2000. These observations indicate that European countries are currently drifting apart in the realm of religious belonging. In sum, these differing trends result in growing differences between European countries in terms of religious diversity from 2000 to 2010. Since the SMRE includes data for the European Union and their historical grouping, this process of drifting apart can be observed for this supranational political body as well. Although on the aggregate level the EU's

distribution of religious affiliation did not change substantially – the older EU 15 as well as the current EU 28 show a solid Catholic bloc facing the non-religious affiliation group as the second largest group –, on the level of its member countries, some drift between its Eastern and Western members is clearly at work.

Looking back on our theoretical considerations in the light of our empirical findings, we suggest taking the personal (micro level), structural (meso and macro) and cultural dimension of "religion" more seriously in the sociology of religion and in survey research in particular. In our research, this differentiation allowed for a plausible understanding of the thus far somewhat hidden meaning of statistics on religious affiliation. The different effects of applying a definition of religious affiliation based on meaningful personal identification versus formal or institutional membership or belonging could systematically be related to observed differences in the data. The postulated role of the cultural system for transmitting a religious identity even without being connected to religious structures or organisations in the social system is a plausible working hypothesis consistent with differences in more recent survey data from more secularised Western countries like France or Belgium. For future surveys, we recommend thinking about adapting the question of religious affiliation in the light of this knowledge and reasoning. A good measurement of different forms of religious affiliation should reflect on the subjective and objective meaning of religious affiliation as well as the new hypothesis of a culturally underpinned religious identity without belonging and believing. The practical conclusion is that social research clearly needs the diversity of data and results produced by competing international survey programs on religion. Only by being able to command a big amount of data from different sources in our SMRE-metadatabase, were we able to identify the various problems that accompany a cross-country measurement of religious affiliation and to improve our knowledge on the deceptively simple question: What is your religious affiliation?

Finally and more generally, we think that methodologically the SMRE makes a strong case for the importance of hermeneutics in statistical research. In our field of research, this means: Only by combining the human capability to think and reflect on data with the capacities of modern computer technologies to handle and analyse vast amounts of data, research will yield valid insights into the realm of religion, society and culture. The upcoming digital age will even underline and enlarge the scope of this methodological conclusion. Digital societies are in need of a human culture of empirical research on religion and society. In the case of religious diversity in Europe, our new estimates of

religious affiliation can contribute an indispensable baseline to further research on religion and religious pluralism. The SMRE-metadatabase and in particular its open access approach leave room for further investigations and use of data by third parties. We ourselves can envision extending our comparative approach to other dimensions of religion and relevant variables. The attendance of religious services and frequency of prayer would be good candidates. Finally, the SMRE-data on religious affiliation should be of great use to explanatory empirical research of all kinds. The data can facilitate case studies involving religion by providing elaborate, ready-to-use tables and graphs on countries and regions within minutes. The data and the wealth of data descriptions can be used for methodological studies and improvements of survey research. And, last but not least, they can now be integrated into cross-country data research on Europe to allow for explanatory analyses involving religion as an independent or dependent variable. And that is exactly what we intended to do with data on religious affiliation in Europe eight years ago. Now we are prepared.

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10 Appendix

10.1 Main results

Appendix A: SMRE Estimates 01/2018

Country	Country Code	Rp.-Period	C	P	O	oCh	J	M	Nra	Oth	Degree of Pluralisation	Largest Religion(s)	Data Quality
Albania	ALB	2000	8.0%	0.0%	15.0%	0.0%	0.0%	65.9%	10.9%	0.0%	Dominant	Muslim	3 - Problematic
Albania	ALB	2010	8.7%	0.0%	9.1%	0.0%	0.0%	52.5%	29.5%	0.2%	Pluralised	Muslim	3 - Problematic
Andorra	AND	2000	90.0%	0.0%	0.0%	3.5%	0.0%	0.6%	5.8%	0.1%	Dominant	Catholic	1 - Reliable
Andorra	AND	2010	87.4%	0.3%	0.1%	2.6%	0.1%	0.5%	8.4%	0.6%	Dominant	Catholic	3 - Problematic
Armenia	ARM	2000	5.6%	1.2%	90.2%	0.1%	0.0%	0.0%	1.7%	1.2%	Dominant	Orthodox	2 - Probably Reliable
Armenia	ARM	2010	0.6%	1.0%	92.9%	0.0%	0.0%	0.0%	1.1%	4.5%	Dominant	Orthodox	3 - Problematic
Austria	AUT	2000	73.8%	4.7%	2.2%	0.3%	0.1%	4.2%	12.0%	2.6%	Dominant	Catholic	1 - Reliable
Austria	AUT	2010	71.9%	5.7%	1.0%	1.0%	0.1%	5.1%	13.0%	2.2%	Dominant	Catholic	2 - Probably Reliable
Azerbaijan	AZE	2000	0.0%	0.1%	2.9%	0.1%	0.2%	90.0%	5.9%	0.9%	Dominant	Muslim	2 - Probably Reliable
Azerbaijan	AZE	2010	0.1%	0.1%	1.4%	0.1%	0.3%	95.6%	1.8%	0.6%	Dominant	Muslim	3 - Problematic
Belarus	BLR	2000	7.0%	0.5%	44.3%	0.0%	0.1%	0.2%	47.8%	0.1%	Pluralised	No religious affiliation, Orthodox	3 - Problematic
Belarus	BLR	2010	8.8%	0.9%	61.6%	0.0%	0.1%	0.1%	28.4%	0.1%	Dominant	Orthodox	3 - Problematic

Belgium	BEL	2000	57.7%	1.7%	0.3%	0.0%	0.1%	1.8%	36.5%	2.1%	Pluralised	Catholic, No religious affiliation	3 - Problematic
Belgium	BEL	2010	50.0%	1.7%	0.8%	0.0%	0.4%	5.0%	41.8%	0.3%	Pluralised	Catholic, No religious affiliation	3 - Problematic
Bosnia and Herzegovina	BiH	2000	13.9%	2.1%	25.9%	0.0%	0.1%	40.2%	16.0%	1.8%	Pluralised	Muslim	2 - Probably Reliable
Bosnia and Herzegovina	BiH	2010	15.2%	0.0%	30.8%	0.0%	0.0%	50.7%	1.1%	2.3%	Pluralised	Muslim	2 - Probably Reliable
Bulgaria	BGR	2000	1.3%	0.1%	74.7%	0.0%	0.0%	10.9%	12.9%	0.2%	Dominant	Orthodox	2 - Probably Reliable
Bulgaria	BGR	2010	0.4%	1.0%	78.2%	0.6%	0.0%	10.5%	8.1%	1.2%	Dominant	Orthodox	3 - Problematic
Croatia	HRV	2000	88.0%	0.3%	4.4%	0.1%	0.0%	1.3%	5.2%	0.7%	Dominant	Catholic	1 - Reliable
Croatia	HRV	2010	86.3%	0.3%	4.4%	0.3%	0.0%	1.5%	4.6%	2.6%	Dominant	Catholic	2 - Probably Reliable
Cyprus	CYP	2000	1.5%	0.7%	69.0%	0.0%	0.0%	22.3%	5.1%	1.5%	Dominant	Orthodox	1 - Reliable
Cyprus	CYP	2010	1.0%	0.2%	69.7%	0.9%	0.1%	23.4%	3.6%	1.1%	Dominant	Orthodox	3 - Problematic
Cyprus North	CYP-n	2010	0.0%	0.2%	0.0%	0.0%	0.2%	96.0%	3.6%	0.0%	Dominant	Muslim	3 - Problematic
Cyprus South	CYP-s	2000	1.5%	1.0%	94.8%	0.8%	0.0%	0.6%	0.2%	1.1%	Dominant	Orthodox	1 - Reliable
Cyprus South	CYP-s	2010	1.7%	0.0%	94.9%	0.7%	0.0%	1.2%	0.6%	1.0%	Dominant	Orthodox	1 - Reliable
Czech Republic	CZE	2000	28.4%	4.4%	0.1%	0.0%	0.1%	0.0%	66.4%	0.8%	Dominant	No religious affiliation	3 - Problematic
Czech Republic	CZE	2010	24.9%	1.9%	0.3%	0.0%	1.1%	0.0%	71.0%	0.8%	Dominant	No religious affiliation	3 - Problematic
Denmark	DNK	2000	0.7%	87.2%	0.0%	0.4%	0.3%	1.4%	9.0%	1.0%	Dominant	Protestant	1 - Reliable
Denmark	DNK	2010	0.8%	74.3%	0.0%	3.0%	0.1%	3.1%	16.7%	2.0%	Dominant	Protestant	2 - Probably Reliable

Estonia	EST	2000	0.4%	13.4%	10.2%	0.0%	0.1%	0.1%	75.1%	0.7%	Dominant	No religious affiliation	3 - Problematic
Estonia	EST	2010	1.3%	11.4%	16.4%	0.0%	0.1%	0.1%	68.8%	1.7%	Dominant	No religious affiliation	3 - Problematic
Finland	FIN	2000	0.1%	85.2%	1.1%	0.4%	0.0%	0.0%	12.7%	0.4%	Dominant	Protestant	1 - Reliable
Finland	FIN	2010	0.5%	74.8%	1.1%	4.2%	0.0%	0.7%	16.6%	2.1%	Dominant	Protestant	2 - Probably Reliable
France	FRA	2000	51.7%	2.3%	0.2%	0.0%	0.5%	0.5%	44.2%	0.6%	Pluralised	Catholic, No religious affiliation	3 - Problematic
France	FRA	2010	40.0%	1.7%	0.3%	0.8%	0.3%	5.1%	50.5%	1.3%	Pluralised	No religious affiliation, Catholic	3 - Problematic
Georgia	GEO	2000	0.8%	0.0%	87.8%	0.0%	0.1%	9.9%	0.0%	1.4%	Dominant	Orthodox	1 - Reliable
Georgia	GEO	2010	0.5%	0.1%	86.3%	0.0%	0.0%	10.7%	0.5%	1.7%	Dominant	Orthodox	2 - Probably Reliable
Germany	DEU	2000	33.1%	32.9%	1.3%	1.2%	0.2%	3.7%	26.5%	1.1%	Pluralised	Protestant	3 - Problematic
Germany	DEU	2010	30.2%	29.2%	1.6%	0.4%	0.2%	4.9%	33.1%	0.4%	Fragmented		3 - Problematic
Germany East	DEU-O	2000	4.2%	24.0%	0.1%	1.8%	0.0%	0.0%	68.7%	1.1%	Dominant	No religious affiliation	1 - Reliable
Germany East	DEU-O	2010	5.4%	21.9%	0.3%	2.6%	0.0%	1.0%	68.1%	0.7%	Dominant	No religious affiliation	1 - Reliable
Germany West	DEU-W	2000	37.6%	41.4%	0.3%	3.8%	0.0%	1.2%	14.1%	1.6%	Pluralised	Protestant, Catholic	1 - Reliable
Germany West	DEU-W	2010	43.0%	34.0%	1.0%	3.0%	0.0%	3.0%	14.0%	2.0%	Pluralised	Catholic	3 - Problematic
Greece	GRC	2000	1.0%	0.4%	94.1%	0.0%	0.2%	1.0%	2.9%	0.4%	Dominant	Orthodox	2 - Probably Reliable
Greece	GRC	2010	0.6%	0.2%	91.3%	0.1%	0.4%	2.7%	4.6%	0.2%	Dominant	Orthodox	2 - Probably Reliable
Hungary	HUN	2000	43.3%	14.8%	0.0%	1.3%	0.0%	0.0%	39.6%	1.1%	Pluralised	Catholic, No religious affiliation	3 - Problematic

Hungary	HUN	2010	40.8%	12.7%	0.1%	0.0%	0.2%	0.0%	45.3%	0.9%	Pluralised	No religious affiliation, Catholic	3 - Problematic
Iceland	ISL	2000	0.9%	91.3%	0.0%	1.4%	0.0%	0.0%	3.2%	3.2%	Dominant	Protestant	2 - Probably Reliable
Iceland	ISL	2010	1.6%	79.6%	0.1%	0.7%	0.0%	0.3%	16.1%	0.1%	Dominant	Protestant	3 - Problematic
Ireland	IRL	2000	88.4%	3.6%	0.3%	1.0%	0.2%	0.5%	3.6%	2.6%	Dominant	Catholic	2 - Probably Reliable
Ireland	IRL	2010	84.2%	3.8%	1.0%	1.4%	0.0%	1.1%	6.1%	2.5%	Dominant	Catholic	2 - Probably Reliable
Italy	ITA	2000	84.5%	0.4%	0.0%	0.4%	0.1%	0.5%	13.6%	0.6%	Dominant	Catholic	2 - Probably Reliable
Italy	ITA	2010	86.0%	0.7%	0.5%	0.6%	0.0%	0.4%	10.3%	1.5%	Dominant	Catholic	2 - Probably Reliable
Kosovo	KOS	2010	1.7%	0.0%	6.8%	0.1%	0.0%	88.8%	2.3%	0.2%	Dominant	Muslim	2 - Probably Reliable
Latvia	LVA	2000	20.7%	21.0%	15.4%	1.0%	0.2%	0.1%	40.3%	1.2%	Pluralised	No religious affiliation	2 - Probably Reliable
Latvia	LVA	2010	19.4%	21.6%	19.2%	0.5%	0.0%	0.0%	39.4%	0.0%	Pluralised	No religious affiliation	3 - Problematic
Liechtenstein	LIE	2000	79.5%	8.3%	0.0%	0.1%	0.1%	4.8%	2.8%	4.4%	Dominant	Catholic	1 - Reliable
Liechtenstein	LIE	2010	75.9%	8.5%	1.2%	0.3%	0.0%	5.4%	5.4%	3.3%	Dominant	Catholic	1 - Reliable
Lithuania	LTU	2000	79.0%	0.8%	4.9%	0.1%	0.0%	0.1%	9.4%	5.9%	Dominant	Catholic	2 - Probably Reliable
Lithuania	LTU	2010	80.3%	0.5%	4.5%	0.0%	0.3%	0.0%	14.0%	0.4%	Dominant	Catholic	3 - Problematic
Luxembourg	LUX	2000	78.1%	2.3%	0.4%	1.6%	0.4%	1.0%	15.8%	0.4%	Dominant	Catholic	2 - Probably Reliable
Luxembourg	LUX	2010	72.0%	2.2%	0.5%	2.2%	0.2%	1.8%	19.0%	2.2%	Dominant	Catholic	2 - Probably Reliable
Macedonia	MKD	2000	0.4%	0.0%	64.8%	0.0%	0.0%	33.3%	0.0%	1.5%	Dominant	Orthodox	2 - Probably Reliable

Macedonia	MKD	2010	0.2%	0.2%	58.9%	0.2%	0.2%	39.3%	1.4%	0.8%	Pluralised	Orthodox, Muslim	3 - Problematic
Malta	MLT	2000	96.3%	0.7%	0.0%	0.0%	0.0%	0.1%	1.8%	1.2%	Dominant	Catholic	2 - Probably Reliable
Malta	MLT	2010	94.4%	0.9%	0.0%	1.7%	0.0%	0.8%	1.6%	0.5%	Dominant	Catholic	2 - Probably Reliable
Monaco	MCO	2000	77.1%	8.0%	0.7%	0.0%	1.5%	3.6%	7.6%	1.3%	Dominant	Catholic	3 - Problematic
Monaco	MCO	2010	80.8%	2.7%	0.7%	0.7%	0.9%	0.3%	12.0%	1.8%	Dominant	Catholic	2 - Probably Reliable
Montenegro	MNE	2000	5.7%	0.2%	69.1%	0.0%	0.0%	20.9%	2.8%	1.3%	Dominant	Orthodox	2 - Probably Reliable
Montenegro	MNE	2010	3.4%	0.0%	72.1%	0.3%	0.0%	19.1%	1.3%	3.6%	Dominant	Orthodox	3 - Problematic
Netherlands	NLD	2000	21.9%	13.9%	1.8%	5.3%	0.1%	0.9%	50.7%	5.5%	Pluralised	No religious affiliation	2 - Probably Reliable
Netherlands	NLD	2010	28.0%	20.0%	0.0%	0.0%	0.0%	4.0%	46.0%	2.0%	Pluralised	No religious affiliation	3 - Problematic
Northern Ireland	GBR-NIR	2000	36.7%	43.5%	0.0%	6.8%	0.1%	0.0%	10.4%	2.6%	Pluralised	Protestant, Catholic	2 - Probably Reliable
Northern Ireland	GBR-NIR	2010	33.9%	39.1%	0.0%	0.0%	0.0%	0.0%	21.5%	5.4%	Pluralised	Protestant, Catholic	3 - Problematic
Norway	NOR	2000	0.6%	86.1%	0.0%	2.7%	0.0%	0.9%	7.4%	2.2%	Dominant	Protestant	1 - Reliable
Norway	NOR	2010	1.5%	74.8%	0.2%	1.7%	0.1%	2.5%	17.6%	1.5%	Dominant	Protestant	2 - Probably Reliable
Poland	POL	2000	91.7%	0.4%	0.6%	1.1%	0.0%	0.0%	5.2%	1.0%	Dominant	Catholic	1 - Reliable
Poland	POL	2010	96.0%	0.2%	0.4%	0.1%	0.0%	0.0%	2.6%	0.6%	Dominant	Catholic	2 - Probably Reliable
Portugal	PRT	2000	84.5%	0.6%	0.2%	1.4%	0.0%	0.1%	3.9%	9.2%	Dominant	Catholic	2 - Probably Reliable
Portugal	PRT	2010	81.0%	0.8%	0.6%	1.8%	0.0%	0.2%	6.8%	8.6%	Dominant	Catholic	2 - Probably Reliable

Republic of Moldova	MDA	2000	0.1%	1.3%	93.5%	0.7%	0.0%	0.1%	1.4%	3.0%	Dominant	Orthodox	2 - Probably Reliable
Republic of Moldova	MDA	2010	0.8%	1.6%	88.2%	1.1%	0.2%	0.5%	6.7%	0.8%	Dominant	Orthodox	2 - Probably Reliable
Romania	ROU	2000	5.6%	4.3%	87.0%	2.2%	0.0%	0.3%	0.1%	0.5%	Dominant	Orthodox	2 - Probably Reliable
Romania	ROU	2010	5.6%	4.6%	85.3%	1.5%	0.1%	0.2%	1.1%	1.5%	Dominant	Orthodox	2 - Probably Reliable
Russia	RUS	2000	0.2%	0.3%	46.3%	0.0%	0.0%	3.0%	49.5%	0.6%	Pluralised	No religious affiliation, Orthodox	3 - Problematic
Russia	RUS	2010	0.3%	1.2%	60.7%	0.0%	0.3%	7.3%	26.7%	3.8%	Dominant	Orthodox	3 - Problematic
San Marino	SMR	2000	95.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.7%	1.3%	Dominant	Catholic	3 - Problematic
San Marino	SMR	2010	87.4%	0.1%	0.1%	1.7%	0.1%	0.1%	9.0%	1.5%	Dominant	Catholic	2 - Probably Reliable
Scotland	GBR-SCT	2000	15.9%	42.4%	0.0%	6.8%	0.1%	0.8%	27.6%	6.4%	Pluralised	Protestant	3 - Problematic
Serbia	SRB	2000	5.5%	1.1%	85.0%	0.0%	0.0%	3.2%	0.5%	4.7%	Dominant	Orthodox	2 - Probably Reliable
Serbia	SRB	2010	5.0%	1.0%	85.1%	0.0%	0.0%	3.1%	1.2%	3.1%	Dominant	Orthodox	2 - Probably Reliable
Slovakia	SVK	2000	73.1%	9.0%	0.0%	0.5%	0.0%	0.0%	13.0%	3.5%	Dominant	Catholic	2 - Probably Reliable
Slovakia	SVK	2010	69.4%	7.9%	1.0%	2.3%	0.1%	0.3%	16.7%	2.5%	Dominant	Catholic	2 - Probably Reliable
Slovenia	SVN	2000	68.0%	1.0%	1.8%	0.5%	0.0%	1.3%	24.9%	2.5%	Dominant	Catholic	2 - Probably Reliable
Slovenia	SVN	2010	66.1%	0.8%	2.1%	0.3%	0.0%	2.3%	25.7%	2.6%	Dominant	Catholic	2 - Probably Reliable
Spain	ESP	2000	79.3%	0.8%	0.1%	0.5%	0.1%	0.6%	17.9%	0.7%	Dominant	Catholic	2 - Probably Reliable
Spain	ESP	2010	70.0%	0.7%	0.9%	1.3%	0.0%	2.2%	23.6%	1.4%	Dominant	Catholic	2 - Probably Reliable

Sweden	SWE	2000	1.4%	75.5%	0.5%	1.2%	0.7%	1.1%	18.8%	0.8%	Dominant	Protestant	2 - Probably Reliable
Sweden	SWE	2010	1.3%	57.5%	0.8%	2.4%	0.1%	2.4%	33.6%	1.9%	Pluralised	Protestant	3 - Problematic
Switzerland	CHE	2000	42.0%	33.0%	1.8%	2.1%	0.3%	4.3%	11.1%	5.4%	Pluralised	Catholic	2 - Probably Reliable
Switzerland	CHE	2010	38.0%	27.1%	2.2%	4.1%	0.2%	5.0%	22.0%	1.3%	Pluralised	Catholic	3 - Problematic
Turkey	TUR	2000	0.0%	0.0%	0.1%	0.3%	0.0%	97.3%	2.1%	0.2%	Dominant	Muslim	1 - Reliable
Turkey	TUR	2010	0.0%	0.0%	0.1%	0.0%	0.0%	97.8%	1.0%	1.0%	Dominant	Muslim	2 - Probably Reliable
Ukraine	UKR	2000	8.1%	2.0%	66.0%	6.9%	0.3%	0.7%	15.3%	0.7%	Dominant	Orthodox	3 - Problematic
Ukraine	UKR	2010	8.0%	1.9%	73.2%	0.1%	0.4%	0.6%	14.9%	0.9%	Dominant	Orthodox	3 - Problematic
United Kingdom	GBR	2000	9.4%	33.7%	0.1%	7.6%	0.5%	2.0%	43.9%	2.7%	Pluralised	No religious affiliation	2 - Probably Reliable
United Kingdom	GBR	2010	8.8%	19.6%	0.0%	13.3%	0.5%	4.6%	50.6%	2.8%	Pluralised	No religious affiliation	3 - Problematic
Vatican City	VAT	2010	98.0%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.8%	Dominant	Catholic	2 - Probably Reliable

Remark: Country-Code: Country-Codes as ISO 3166-1 alpha-3 codes; Reporting-Periods: 1996-2005 = Period 2000 and 2006-2015 = Period 2010; Religious Categories: C: Catholic, P: Protestant, O: Orthodox, oCh: other Christian, J: Jew; M: Muslim, Nra: No religious affiliation, Oth: Other; Degree of Pluralisation: "Dominant" means that the largest religious group holds 60 per cent or more of the population / "Pluralised" stands for a country in which the largest group is in the range of 35 to 60 per cent / "Fragmented" means that no religious group holds a share larger than 35 per cent of the total population; Data not available for Cyprus North 2000, England & Wales 2000 and 2010, Kosovo 2000, Northern Ireland 2010, Scotland 2010 and Vatican City 2000. Source: www.smre-data.ch (27-2-2018).

Appendix B: SMRE Estimates 1/2018 for Europe

Region	Rp.-Perio	C	P	O	oCh	J	M	Nra	Oth	Degree of Pluralisatio	Largest Religion(s)
EWG-6	2000	54.4%	14.7%	0.3%	1.7%	0.2%	0.8%	26.6%	1.3%	Pluralised	Catholic
EWG-6	2010	53.1%	12.4%	0.6%	1.3%	0.1%	3.1%	27.8%	1.6%	Pluralised	Catholic
EG-9	2000	44.2%	20.0%	0.3%	2.9%	0.2%	1.1%	29.6%	1.7%	Pluralised	Catholic
EG-9	2010	43.0%	15.0%	0.4%	3.9%	0.2%	3.4%	32.2%	1.9%	Pluralised	Catholic
EG-10	2000	42.6%	19.2%	3.8%	2.8%	0.2%	1.1%	28.6%	1.6%	Pluralised	Catholic
EG-10	2010	41.4%	14.5%	3.8%	3.8%	0.2%	3.4%	31.2%	1.8%	Pluralised	Catholic
EG-12	2000	48.3%	16.5%	3.2%	2.5%	0.2%	1.0%	26.6%	1.7%	Pluralised	Catholic
EG-12	2010	46.3%	12.3%	3.3%	3.4%	0.2%	3.1%	29.5%	1.9%	Pluralised	Catholic
EU-15	2000	45.6%	17.9%	3.2%	1.9%	0.3%	1.6%	28.0%	1.6%	Pluralised	Catholic
EU-15	2010	42.4%	14.0%	3.2%	2.8%	0.2%	3.5%	32.3%	1.6%	Pluralised	Catholic
EU-25	2000	49.4%	15.7%	3.0%	1.7%	0.2%	1.4%	27.1%	1.6%	Pluralised	Catholic
EU-25	2010	46.7%	12.4%	3.1%	2.4%	0.2%	3.0%	30.8%	1.5%	Pluralised	Catholic
EU-27 (old)	2000	46.6%	14.9%	8.1%	1.7%	0.2%	1.5%	25.6%	1.5%	Pluralised	Catholic
EU-27 (old)	2010	44.4%	11.9%	7.5%	2.3%	0.2%	3.0%	29.2%	1.5%	Pluralised	Catholic
EU-28	2000	46.9%	14.7%	8.1%	1.7%	0.2%	1.5%	25.4%	1.5%	Pluralised	Catholic
EU-28	2010	44.5%	11.8%	7.5%	2.3%	0.2%	3.0%	28.9%	1.5%	Pluralised	Catholic
Member States of the Council of Europe	2000	29.8%	10.0%	20.0%	1.5%	0.2%	11.1%	26.2%	1.2%	Fragmented	
Member States of the Council of Europe	2010	28.6%	8.4%	21.7%	1.5%	0.2%	13.6%	23.9%	1.8%	Fragmented	
Europe (Council of Europe States incl. BLR, VAT and XKX)	2010	28.3%	8.2%	22.1%	1.5%	0.2%	13.5%	23.9%	1.8%	Fragmented	

Remark: Reporting-Periods: 1996-2005 = Period 2000 and 2006-2015 = Period 2010; Religious Categories: C: Catholic, P: Protestant, O: Orthodox, oCh: other Christian, J: Jew; M: Muslim, Nra: No religious affiliation, Oth: Other; Degree of Pluralisation: "Dominant" means that the largest religious group holds 60 per cent or more of the population / "Pluralised" stands for a country in which the largest group is in the range of 35 to 60 per cent / "Fragmented" means that no religious group holds a share larger than 35 per cent of the total population; Data not available for Europe 2000. Source: www.smre-data.ch (27-2-2018).

Appendix C: Largest Religious Category and Classification of Pluralisation
Reporting Period 1996-2005

Dominant Catholic	Dominant Protestant	Dominant Orthodox	Dominant Muslim	Dominant No religious affiliation
Andorra (90.0% / 3-P)	Denmark (87.2% / 1-R)	Armenia (90.2% / 3-P)	Albania (65.9% / 3-P)	Czech Republic (66.4% / 3-P)
Austria (73.8% / 1-R)	Finland (85.2% / 1-R)	Bulgaria (74.7% / 3-P)	Azerbaijan (90% / 3-P)	Estonia (75.1% / 3-P)
Croatia (88.0% / 1-R)	Iceland (91.3% / 2-Pr)	Cyprus (69.0% / 3-P)	Turkey (97.3% / 1-R)	Germany East (68.7% / 1-R)
Ireland (88.4% / 2-Pr)	Norway (86.1% / 1-R)	Cyprus South (94.8% / 1-R)		
Italy (84.5% / 2-Pr)	Sweden (75.5% / 2-Pr)	Georgia (87.8% / 1-R)		
Liechtenstein (79.5% / 1-R)		Greece (94.1% / 2-Pr)		
Lithuania (79.0% / 2-Pr)		Macedonia (64.8% / 2-Pr)		
Luxembourg (78.1% / 2-Pr)		Montenegro (69.1% / 3-P)		
Malta (96.3% / 2-Pr)		Republic of Moldova (93.5% / 2-Pr)		
Monaco (77.1% / 3-P)		Romania (87.0% / 2-Pr)		
Poland (91.7% / 1-R)		Serbia (85.0% / 2-Pr)		
Portugal (84.5% / 2-Pr)		Ukraine (66.0% / 3-P)		
San Marino (95.0% / 3-P)				
Slovakia (73.1% / 2-Pr)				
Slovenia (68.0% / 2-Pr)				
Spain (79.3% / 2-Pr)				

Pluralised Catholic	Pluralised Protestant	Pluralised Orthodox	Pluralised Muslim	Pluralised No religious affiliation
Belgium (57.7% / 3-P)	Germany West (41.4% / 1-R)	-	Bosnia and Herzegovina (40.2 / 2-Pr)	Belarus (47.8% / 3-P)
France (51.7% / 3-P)	Northern Ireland (43.5% / 2-Pr)			Latvia (40.3% / 2-Pr)
Hungary (43.3% / 3-P)	Scotland (42.4% / 3-P)			Netherlands (50.7% / 2-Pr)
Switzerland (42.0% / 2-Pr)				Russia (49.5% / 3-P)
				United Kingdom (43.9% / 2-Pr)

Fragmented
Germany (3-P)

Remark: Degrees of Pluralisation: 1-R = Reliable / 2-Pr = Probably reliable / 3-P = Problematic; Data not available for Cyprus North, England, & Wales, Kosovo and Vatican City; Source: SMRE-estimates 01/2018, www.smre-data.ch.

Appendix D: Largest Religious Category and Classification of Pluralisation
Reporting Period 2006-2015

Dominant Catholic	Dominant Protestant	Dominant Orthodox	Dominant Muslim	Dominant No religious affiliation
Andorra (87.4 / 1-R)	Denmark (74.3% / 2-Pr)	Armenia (92.9% / 2-Pr)	Azerbaijan (95.6% / 2-Pr)	Czech Republic (71.0% / 3-P)
Austria (71.9% / 2-Pr)	Finland (74.8% / 2-Pr)	Belarus (61.6% / 3-P)	Cyprus North (96.0 / 3-P)	Estonia (68.8% / 3-P)
Croatia (86.3% / 2-Pr)	Iceland (79.6% / 3-P)	Bulgaria (78.2% / 2-Pr)	Kosovo (88.8% / 2-Pr)	Germany East (68.1% / 1-R)
Ireland (84.2% / 2-Pr)	Norway (74.8% / 2-Pr)	Cyprus (69.7% / 1-R)	Turkey (97.8% / 2-Pr)	
Italy (86.0% / 2-Pr)		Cyprus South (94.9% / 1-R)		
Liechtenstein (75.9% / 1-R)		Georgia (86.3% / 2-Pr)		
Lithuania (80.3% / 3-P)		Greece (91.3% / 2-Pr)		
Luxembourg (72.0% / 2-Pr)		Montenegro (72.1% / 2-Pr)		
Malta (94.4% / 2-Pr)		Republic of Moldova (88.2% / 2-Pr)		
Monaco (80.8% / 2-Pr)		Romania (85.3% / 2-Pr)		
Poland (96% / 2-Pr)		Russia (60.7% / 3-P)		
Portugal (81.0 / 2-Pr)		Serbia (85.1% / 2-Pr)		
San Marino (87.4% / 2-Pr)		Ukraine (73.2% / 3-P)		
Slovakia (69.4% / 2-Pr)				
Slovenia (66.1% / 2-Pr)				
Spain (70.0% / 2-Pr)				
Vatican City (98.0% / 2-Pr)				

Pluralised Catholic	Pluralised Protestant	Pluralised Orthodox	Pluralised Muslim	Pluralised No religious affiliation
Belgium (50.0% / 3-P)	Sweden (57.5% / 3-P)	Macedonia (58.9% / 3-P)	Albania (52.5% / 3-P)	France (50.5% / 3-P)
Germany West (43.0% / 3-P)	Northern Ireland (39.1% / 3-P)		Bosnia and Herzegovina (50.7% / 2-Pr)	Hungary (45.3% / 3-P)
Switzerland (38.0% / 3-P)				Latvia (39.4% / 3-P)
				Netherlands (46.0% / 3-P)
				United Kingdom (50.6% / 3-P)

Fragmented
Germany (3-P)

Remark: Degrees of Pluralisation: 1-R = Reliable / 2-Pr = Probably reliable / 3-P = Problematic; Data not available for England & Wales and Scotland; Source: SMRE-estimates 01/2018, www.smre-data.ch.

10.2 Documentation

Appendix E: Glossary of the SMRE

Reporting Period (2000 and 2010): The available statistical sources and surveys report on different years and were also published in different years. Using the historically well-established assumption that in peaceful periods religious affiliation is a rather stable social characteristic and thus changes only gradually, the SMRE defined two reporting periods. Data sets reporting on the years 1996 to 2005 were integrated into the reporting period 2000, data sets reporting on the years from 2005 to 2015 into the reporting period 2010.

Cases: The SMRE covers 50 states of Europe including Armenia, Azerbaijan, Georgia, Russia and Turkey, 7 sub regions like Germany east and west or Cyprus south and north and 9 regions on European level (aggregated data for EU and Europe). Since the database holds statistics on the two *periods of reporting* (2000 and 2010), the SMRE consists currently of 132 *cases*. The number of *data sets* on each case differs from case to case according to the number of sources and secondary statistics available.

Data Set: Each *data set* consists of all numbers or percentages on religious affiliation in a given case by a single data source. These data sources are censuses, surveys, generic data compilations or estimations and statistics and tables published in secondary scientific literature. Within the SMRE each single number on one of the religious categories is counted as a data point. Technically, each *data set* is represented by a single row within the database. A stable, systematic scheme of categories of religious grouping is a prerequisite of any comparative analysis of the various data sets. The SMRE consists of a special *categorial* system. All data sources were as far as possible mapped to this categorical system.

Categories of Religious Groups: Any kind of statistic on religious affiliation must categorize the multiplicity of religions and denominations into larger groupings. Only by reducing the multiplicity to categories such as (established) Christian Churches, other Christian traditions, other religious communities ("world religions"), other religions ("natural religions") or "no religious affiliation/atheists" are social sciences able to investigate religious affiliation as an integral part of the socio-demographic structure of a given society. The categorical system of the SMRE is made up of 8 categories (for details cf. Appendix G). All original data for each data set were mapped into this categorical system.

Data Points: Each *data set* consists of several data points. Each number in one of the eight categories of the SMRE is counted as a data point. The number of data points varies theoretically and practically between 1 and 8. The number of data points was also used as a criterion for the quality of a data source or data set in the SMRE. The more data points, the more complete are the statistics on religious affiliation. In case there are more than 5 data points available, the SMRE calculates the value of the Herfindahl-index for the respective data set. A high degree of concurrence between the Herfindahl-index of different *data sets* within the same reporting period was used as a criterion of congruence for the country data quality.

Original Data Source is a technical term of the SMRE to name the final or original source of the data of a particular data set. All data sets of the SMRE were reviewed on the question from which data source the numbers of a data set originate.

Appendix F List of Countries and Regions Covered by the SMRE

The SMRE holds data for 50 European countries and 7 Sub-Regions:

Albania ALB, Andorra AND, Armenia AMR, Austria AUT, Azerbaijan AZE, Belarus BLR, Belgium BEL, Bosnia-Herzegovina BiH, Bulgaria BGR, Croatia HRV, Cyprus CYP, Cyprus North CYP-n, Cyprus South CYP-s, Czech Republic CZE, Denmark DNK, England & Wales GBR-EAW, Estonia EST, Finland FIN, France FRA, Georgia GEO, Germany DEU, Germany East DEU-O, Germany West DEU-W, Greece GRC, Hungary HUN, Iceland ISL, Ireland IRL, Italy ITA, Kosovo XKX, Latvia LVA, Liechtenstein LIE, Lithuania LTU, Luxembourg LUX, Macedonia MKD, Malta MLT, Monaco MCO, Montenegro MNE, Netherlands NDL, Northern Ireland GBR-NIR, Norway NOR, Poland POL, Portugal PRT, Republic of Moldova MDA, Romania ROM, Russia RUS, San Marino SMR, Scotland GBR-SCT, Serbia SRB, Slovakia SVK, Slovenia SVN, Spain ESP, Sweden SWE, Switzerland CHE, Turkey TUR, Ukraine UKR, United Kingdom GBR, Vatican City VAT.

Aggregated data is available for 9 regions on European level:

EWG-6, EG-9, EG-10, EG-12, EU-15, EU-25, EU-27 (old), EU-28, Member States of the Council of Europe, Europe (Member States of the Council of Europe incl. BLR, VAT and XKX)

Appendix G: List of SMRE-Categories including mapped religious groups

Catholic: Christ Catholic Church, Greek Catholic Church, Mariavite Church, Old Catholic Church, Roman Catholic Church

Protestant: Anglican Church incl. Church of Ireland, Arminianism, Baptists, Calvinists, Dutch Reformed Church, Evangelical Church, Lutheran, Presbyterianism, Protestant, Silesian Evangelical Church of the Augsburg Confession

Orthodox: Albanian Orthodox Church, Armenian Apostolic Church, Greek Orthodox Church, Old Believers, Old-Rite, Old Orthodox, Russian Orthodox Church

other Christian: Adventist, Apostolic, Brethern Church, Charismatic Episcopal Church, Evangelicals, Fraternity Church, Free Lutheran Church, Free Presbytarian, Hussites, Mennonites, Methodist, New Apostolic, Pentecostalism, Quaker, Unitarians, URC / Congregational

Jew: Jewish, Judaism, Mosaic

Muslim: Bektashi, Shiite, Sunni

No religious affiliation: Agnostics, Atheists, no denomination, no religion

Other: Bahà'i, Buddhism, Chinese Universalism, Hindu, Jain, Confucian, Mormonism, Pagan, Shar-fadinian, Shinto, Sikh, Spiritualism, Taoism, Jehovah's Witness, Zoroaster

Also be counted among the other are those who have not given an answer or were classified as undefined.

Appendix H: Error Sorting out Process

Country	Reporting Period	Data sets sorted out caused by errors
Albania	2000	No data sets with errors
Albania	2010	Albania Census 2011[3], ESS[2], WRD[2]
Andorra	2000	No data sets with errors
Andorra	2010	Cipriani[6], WCD[6], WRD[2]
Armenia	2000	No data sets with errors
Armenia	2010	Cipriani[6], WRD[2]
Austria	2000	ESS[2]
Austria	2010	Boomgaarden[6], ESS[2], Minkenberg[6], WCD[6], WRD[2]
Azerbaijan	2000	No data sets with errors
Azerbaijan	2010	Cipriani[6], WRD[2]
Belarus	2000	No data sets with errors
Belarus	2010	WCD[6], WRD[2]
Belgium	2000	ESS[2]
Belgium	2010	Boomgaarden[6], Cipriani[6], ESS[2], Minkenberg[6], WRD[2], ISSP 2013
Bosnia and Herzegovina	2000	No data sets with errors
Bosnia and Herzegovina	2010	Cipriani[6], WRD[2]
Bulgaria	2000	Bulgaria Census 2001[2]
Bulgaria	2010	Cipriani[6], Bulgaria Census 2011[2], ESS[2], WRD[2]
Croatia	2000	No data sets with errors
Croatia	2010	Cipriani[6], ESS[2], WCD[6], WRD[2]
Cyprus	2000	No data sets with errors
Cyprus	2010	Cipriani[6], WCD[6], WRD[2]
Cyprus North	2000	No data sets with errors
Cyprus North	2010	No data sets with errors
Cyprus South	2000	No data sets with errors
Cyprus South	2010	ESS[2]

Czech Republic	2000	Czech Republic Census[2], ESS[2]
Czech Republic	2010	Cipriani[6], Czech Republic Census[5], ESS[2], WCD[6], WRD[2]
Denmark	2000	ESS[2]
Denmark	2010	Boomgaarden[6], Cipriani[6], ESS[2], EVS[2], Minkenberg[6], WRD[2]
England & Wales	2000	No data sets with errors
England & Wales	2010	No data sets with errors
Estonia	2000	ESS[2], Estonia Census 2000[5]
Estonia	2010	Boomgaarden[6], Cipriani[6], Estonia Census 2011[3], ESS[2], WRD[2]
Finland	2000	ESS[2]
Finland	2010	Boomgaarden[6], Cipriani[6], ESS[2], Minkenberg[6], WCD[6], WRD[2]
France	2000	No data sets with errors
France	2010	Boomgaarden[6], Cipriani[6], Minkenberg[6], WCD[6], WRD[2]
Georgia	2000	No data sets with errors
Georgia	2010	Cipriani[6], WCD[6], WRD[2]
Germany	2000	ESS[2]
Germany	2010	Boomgaarden[6], Cipriani[6], ESS[2], Minkenberg[6], WCD[6], WRD[2]
Germany East	2000	No data sets with errors
Germany East	2010	No data sets with errors
Germany West	2000	No data sets with errors
Germany West	2010	No data sets with errors
Greece	2000	ESS[2]
Greece	2010	ESS[2], WRD[2]
Hungary	2000	ESS[2], Hungary Census 2001[5], ISSP[2]
Hungary	2010	Boomgaarden[6], Cipriani[6], ESS[2], Hungary Census 2011[2, 3], Special Eurobarometer 2012[2], WCD[6], WRD[2]
Iceland	2000	Iceland Census 2000[4]
Iceland	2010	ESS[2], Iceland Census 2012[4], WRD[2]
Ireland	2000	No data sets with errors
Ireland	2010	Boomgaarden[6], Cipriani[6], Minkenberg[6], WCD[6], WRD[2]
Italy	2000	ESS[2]
Italy	2010	Boomgaarden[6], Cipriani[6], ESS[2], Minkenberg[6], WCD[6], WRD[2]
Kosovo	2000	No data sets with errors
Kosovo	2010	ESS[2], WRD[2]
Latvia	2000	No data sets with errors
Latvia	2010	Cipriani[6], ESS[2], WRD[2]
Liechtenstein	2000	No data sets with errors

Liechtenstein	2010	Cipriani[6], WCD[6], WRD[2]
Lithuania	2000	No data sets with errors
Lithuania	2010	Cipriani[6], ESS[2], WCD[6], WRD[2]
Luxembourg	2000	ESS[2]
Luxembourg	2010	Cipriani[6], WRD[2]
Macedonia	2000	No data sets with errors
Macedonia	2010	WRD[2]
Malta	2000	No data sets with errors
Malta	2010	Cipriani[6], WRD[2]
Monaco	2000	No data sets with errors
Monaco	2010	Cipriani[6], WRD[2]
Montenegro	2000	No data sets with errors
Montenegro	2010	WRD[2]
Netherlands	2000	ESS[2]
Netherlands	2010	Boomgaarden[6], Cipriani[6], ESS[2], ISSP 2008[2], Minkenberg[6], WCD[6], WRD[2]
Northern Ireland	2000	No data sets with errors
Northern Ireland	2010	No data sets with errors
Norway	2000	ESS[2]
Norway	2010	Cipriani[6], ESS[2], EVS[2], Minkenberg[6], WCD[6], WRD[2]
Poland	2000	ESS[2]
Poland	2010	Boomgaarden[6], ESS[2], ISSP 2008[2], WRD[2]
Portugal	2000	ESS[2]
Portugal	2010	Boomgaarden[6], Cipriani[6], ESS[2], Minkenberg[6], WRD[2]
Republic of Moldova	2000	No data sets with errors
Republic of Moldova	2010	WRD[2]
Romania	2000	No data sets with errors
Romania	2010	ESS[2], WCD[6], WRD[2]
Russia	2000	No data sets with errors
Russia	2010	Cipriani[6], ESS[2], WRD[2]
San Marino	2000	No data sets with errors
San Marino	2010	Cipriani[6], WCD[6], WRD[2]
Scotland	2000	No data sets with errors
Scotland	2010	No data sets with errors
Serbia	2000	No data sets with errors
Serbia	2010	WCD[6], WRD[2]

Slovakia	2000	ESS[2]
Slovakia	2010	Cipriani[6], ESS[2], WRD[2]
Slovenia	2000	ESS[2], Slovenia Census 2002[2]
Slovenia	2010	Boomgaarden[6], Cipriani[6], ESS[2], WCD, WRD[2]
Spain	2000	No data sets with errors
Spain	2010	Boomgaarden[6], Cipriani[6], EVS 2008[2], Minkenberg[6], WRD[2]
Sweden	2000	ESS[2]
Sweden	2010	Boomgaarden[6], Cipriani[6], ESS[2], Minkenberg[6], WCD[6], WRD[2]
Switzerland	2000	ESS[2]
Switzerland	2010	Cipriani[6], ESS[2], EVS[2], ISSP 2013[2], Minkenberg[6], WRD[2]
Turkey	2000	No data sets with errors
Turkey	2010	ESS[2], ISSP 2008[2], WRD[2]
Ukraine	2000	ESS[2]
Ukraine	2010	Cipriani[6], ESS[2], WRD[2]
United Kingdom	2000	EVS 1999[2], GBR Census 2001[2], Ipsos MORI (1997[2], 2001[2], 2005[2])
United Kingdom	2010	Boomgaarden[6], Cipriani[6], Great Britain Census 2011[2], ISSP 2008[2], Minkenberg[6], WRD[2]
Vatican City	2000	No data sets with errors
Vatican City	2010	WRD[2]

Remark: Errors: Sampling Error (1), Specification Error (2), Measurement Error (3), Frame Error (4), Nonresponse Error (5), Data processing error incl. Coding- and Sum-Errors (6)); Periods: 1996-2005 = Period 2000 and 2006-2015 = Period 2010; For citation of the different data sets see www.smre-data.ch; Source: www.smre-data.ch (27-2-2018).

Appendix I: Rating of country data quality

Country	Reporting Period	n Data sets without Errors	Reason for data quality 2, 3 or 4 and not 1	Data Quality
Albania	2000	2	classification-error in biggest category	3 - Problematic
Albania	2010	7	classification-error in biggest category	3 - Problematic
Andorra	2000	2	classification-error in biggest category	3 - Problematic
Andorra	2010	2		1 - Reliable
Armenia	2000	2	classification-error in biggest category	3 - Problematic
Armenia	2010	8	classification-error in 2nd biggest category	2 - Probably Reliable
Austria	2000	4		1 - Reliable
Austria	2010	12	difference between HHI of all Datasets > 0.1	2 - Probably Reliable
Azerbaijan	2000	1	only one dataset available	3 - Problematic
Azerbaijan	2010	9	classification-error in 2nd biggest category	2 - Probably Reliable
Belarus	2000	2	classification-error in biggest category	3 - Problematic
Belarus	2010	8	classification-error in biggest category	3 - Problematic
Belgium	2000	3	classification-error in biggest category	3 - Problematic
Belgium	2010	12	classification-error in biggest category	3 - Problematic
Bosnia and Herzegovina	2000	2	classification-error in 2nd biggest category	2 - Probably Reliable
Bosnia and Herzegovina	2010	6	classification-error in biggest category but census available	2 - Probably Reliable
Bulgaria	2000	4	classification-error in biggest category	3 - Problematic
Bulgaria	2010	10	classification-error in 2nd biggest category	2 - Probably Reliable
Croatia	2000	4		1 - Reliable
Croatia	2010	12	standard deviation in 2nd biggest category > 5%	2 - Probably Reliable
Cyprus	2000	1	only one dataset available	3 - Problematic
Cyprus	2010	5		1 - Reliable
Cyprus North	2000	0	no data available	4 - not available
Cyprus North	2010	1	only one dataset available	3 - Problematic
Cyprus South	2000	2		1 - Reliable

Cyprus South	2010	6		1 - Reliable
Czech Republic	2000	4	classification-error in biggest category	3 - Problematic
Czech Republic	2010	11	classification-error in biggest category	3 - Problematic
Denmark	2000	3		1 - Reliable
Denmark	2010	10	standard deviation in 2nd biggest category > 5%	2 - Probably Reliable
England & Wales	2000	0	no data available	4 - not available
England & Wales	2010	0	no data available	4 - not available
Estonia	2000	2	classification-error in biggest category	3 - Problematic
Estonia	2010	12	classification-error in biggest category	3 - Problematic
Finland	2000	6		1 - Reliable
Finland	2010	11	difference between HHI of all Datasets > 0.1	2 - Probably Reliable
France	2000	3	classification-error in biggest category	3 - Problematic
France	2010	23	classification-error in biggest category	3 - Problematic
Georgia	2000	2		1 - Reliable
Georgia	2010	10	difference between HHI of all Datasets > 0.1	2 - Probably Reliable
Germany	2000	5	classification-error in biggest category	3 - Problematic
Germany	2010	16	classification-error in biggest category	3 - Problematic
Germany East	2000	3		1 - Reliable
Germany East	2010	4		1 - Reliable
Germany West	2000	2		1 - Reliable
Germany West	2010	4	classification-error in biggest category	3 - Problematic
Greece	2000	2	classification-error in 2nd biggest category	2 - Probably Reliable
Greece	2010	10	classification-error in 2nd biggest category	2 - Probably Reliable
Hungary	2000	4	classification-error in biggest category	3 - Problematic
Hungary	2010	12	classification-error in biggest category	3 - Problematic
Iceland	2000	2	classification-error in 2nd biggest category	2 - Probably Reliable
Iceland	2010	7	classification-error in biggest category	3 - Problematic
Ireland	2000	6	difference between HHI of all Datasets > 0.1	2 - Probably Reliable
Ireland	2010	17	classification-error in 2nd biggest category	2 - Probably Reliable
Italy	2000	5	difference between HHI of all Datasets > 0.1	2 - Probably Reliable
Italy	2010	9	difference between HHI of all Datasets > 0.1	2 - Probably Reliable
Kosovo	2000	0	no data available	4 - not available

Kosovo	2010	5	difference between HHI of all Datasets > 0.1	2 - Probably Reliable
Latvia	2000	3	classification-error in 2nd biggest category	2 - Probably Reliable
Latvia	2010	11	classification-error in biggest category	3 - Problematic
Liechtenstein	2000	2		1 - Reliable
Liechtenstein	2010	4		1 - Reliable
Lithuania	2000	4	standard deviation in biggest category > 5%	2 - Probably Reliable
Lithuania	2010	10	classification-error in biggest category	3 - Problematic
Luxembourg	2000	2	standard deviation in biggest category > 5%	2 - Probably Reliable
Luxembourg	2010	9	standard deviation in biggest category > 5%	2 - Probably Reliable
Macedonia	2000	3	classification-error in biggest category but census available	2 - Probably Reliable
Macedonia	2010	5	classification-error in biggest category	3 - Problematic
Malta	2000	2	classification-error in 2nd biggest category	2 - Probably Reliable
Malta	2010	9	classification-error in 2nd biggest category	2 - Probably Reliable
Monaco	2000	1	only one dataset available	3 - Problematic
Monaco	2010	3	difference between HHI of all Datasets > 0.1	2 - Probably Reliable
Montenegro	2000	1	only one dataset available	3 - Problematic
Montenegro	2010	6	classification-error in biggest category but census available	2 - Probably Reliable
Netherlands	2000	4	standard deviation in biggest category > 5%	2 - Probably Reliable
Netherlands	2010	10	classification-error in biggest category	3 - Problematic
Northern Ireland	2000	2	classification-error in 2nd biggest category	2 - Probably Reliable
Northern Ireland	2010	1	only one dataset available	3 - Problematic
Norway	2000	3		1 - Reliable
Norway	2010	7	standard deviation in biggest category > 5%	2 - Probably Reliable
Poland	2000	6		1 - Reliable
Poland	2010	17	difference between HHI of all Datasets > 0.1	2 - Probably Reliable
Portugal	2000	5	classification-error in 2nd biggest category	2 - Probably Reliable
Portugal	2010	14	difference between HHI of all Datasets > 0.1	2 - Probably Reliable
Republic of Moldova	2000	4	classification-error in 2nd biggest category	2 - Probably Reliable
Republic of Moldova	2010	10	classification-error in 2nd biggest category	2 - Probably Reliable
Romania	2000	5	classification-error in 2nd biggest category	2 - Probably Reliable
Romania	2010	12	classification-error in 2nd biggest category	2 - Probably Reliable
Russia	2000	3	classification-error in biggest category	3 - Problematic

Russia	2010	17	classification-error in biggest category	3 - Problematic
San Marino	2000	1	only one dataset available	3 - Problematic
San Marino	2010	2	difference between HHI of all Datasets > 0.1	2 - Probably Reliable
Scotland	2000	1	only one dataset available	3 - Problematic
Scotland	2010	0	no data available	4 - not available
Serbia	2000	3	difference between HHI of all Datasets > 0.1	2 - Probably Reliable
Serbia	2010	6	classification-error in 2nd biggest category	2 - Probably Reliable
Slovakia	2000	5	standard deviation in biggest category > 5%	2 - Probably Reliable
Slovakia	2010	13	difference between HHI of all Datasets > 0.1	2 - Probably Reliable
Slovenia	2000	5	standard deviation in 2nd biggest category > 5%	2 - Probably Reliable
Slovenia	2010	12	classification-error in 2nd biggest category	2 - Probably Reliable
Spain	2000	6	standard deviation in biggest category > 5%	2 - Probably Reliable
Spain	2010	19	difference between HHI of all Datasets > 0.1	2 - Probably Reliable
Sweden	2000	5	standard deviation in biggest category > 5%	2 - Probably Reliable
Sweden	2010	12	classification-error in biggest category	3 - Problematic
Switzerland	2000	3	classification-error in 2nd biggest category	2 - Probably Reliable
Switzerland	2010	17	classification-error in biggest category	3 - Problematic
Turkey	2000	2		1 - Reliable
Turkey	2010	13	classification-error in 2nd biggest category	2 - Probably Reliable
Ukraine	2000	5	classification-error in biggest category	3 - Problematic
Ukraine	2010	12	classification-error in biggest category	3 - Problematic
United Kingdom	2000	15	classification-error in 2nd biggest category	2 - Probably Reliable
United Kingdom	2010	24	classification-error in biggest category	3 - Problematic
Vatican City	2000	0	no data available	4 - not available
Vatican City	2010	3	classification-error in 2nd biggest category	2 - Probably Reliable

Remark: Periods: 1996-2005 = Period 2000 and 2006-2015 = Period 2010; Source: www.smre-data.ch (27-2-2018).

Appendix J: Estimation method and used Data sets

Country	Reporting Period	Data Quality	Estimation Method	Used Data set	Explanatory statement
Albania	2000	3-P	Best Dataset	WRP 2000	plausibility of data in comparison with second period
Albania	2010	3-P	Best Dataset	EVS 2008	objective before cultural dimension of religion, measurement before estimation, completeness of categories
Andorra	2000	3-P	Best Dataset	WRP 2000	plausibility of data in comparison with second period
Andorra	2010	1-R	Mean Value	WRP 2010, PEW 2010	
Armenia	2000	3-P	Best Dataset	WRP 2000	plausibility of data in comparison with second period
Armenia	2010	2-Pr	Mean Value but Census	Armenia Census 2011	
Austria	2000	1-R	Mean Value but Census	Austria Census 2001	
Austria	2010	2-Pr	Mean Value	EVS 2008, ISSP 2008, Institut für Islamische Studien Wien 2012*, Jewish Yearbook 2013*, Österreichischer Integrationsfond 2009*, PEW 2010, Religion Monitor 2007, Special Eurobarometer (2009, 2010, 2012), WRP 2010, YoMiE 2016*	
Azerbaijan	2000	3-P	Best Dataset	WRP 2000	only one dataset available
Azerbaijan	2010	2-Pr	Mean Value	DHS 2006, Caucasus Barometer, Jewish Yearbook 2013*, PEW 2010, EVS 2008, WVS 2011/2012, WRP 2010, WCD 2010, YoMiE 2016*	
Belarus	2000	3-P	Best Dataset	EVS 1999	measurement before estimation
Belarus	2010	3-P	Best Dataset	EVS 2008	objective before cultural dimension of religion, measurement before estimation, completeness of categories
Belgium	2000	3-P	Best Dataset	EVS 1999	measurement before estimation, completeness of categories
Belgium	2010	3-P	Best Dataset	Yoyé and Dobbelaere 2012	objective before cultural dimension of

					religion, country specific expert estimation
Bosnia and Herzegovina	2000	2-Pr	Mean Value	WVS 2001, WRP 2000	
Bosnia and Herzegovina	2010	2-Pr	Mean Value but Census	Bosnia Herzegovina Census 2013	
Bulgaria	2000	3-P	Best Dataset	ISSP 1998	measurement before estimation, completeness of categories
Bulgaria	2010	2-Pr	Mean Value	Aufbruch 2007, Jewish Yearbook 2013*, EVS 2008, PEW 2010, Special Eurobarometer (2009, 2010, 2012), WRP 2010, WCD 2010, YoMiE 2016*	
Croatia	2000	1-R	Mean Value but Census	Croatia Census 2001	
Croatia	2010	2-Pr	Mean Value but Census	Croatia Census 2011	
Cyprus	2000	3-P	Best Dataset	WRP 2000	only one dataset available
Cyprus	2010	1-R	Mean Value	Jewish Yearbook 2013*, PEW 2010, WVS (2006, 2011), WRP 2010	
Cyprus North	2000	4 - n/a	n/a	n/a	no dataset available
Cyprus North	2010	3-P	Best Dataset	EVS 2008	only one dataset available
Cyprus South	2000	1-R	Mean Value but Census	Cyprus Census 2001	
Cyprus South	2010	1-R	Mean Value	ISSP 2008, EVS 2008, Special Eurobarometer (2009, 2010, 2012), YoMiE 2016*	
Czech Republic	2000	3-P	Best Dataset	EVS 1999	objective before cultural dimension of religion
Czech Republic	2010	3-P	Best Dataset	EVS 2008	objective before cultural dimension of religion, measurement before estimation
Denmark	2000	1-R	Mean Value	EVS 1999, RAMP 1999, WRP 2000, ISSP 1998	
Denmark	2010	2-Pr	Mean Value	Jewish Yearbook 2013*, ISSP (2008, 2013), PEW 2010, Special Eurobarometer (2009, 2010, 2012), WRP 2010, YoMiE 2016*	
England & Wales	2000	4 - n/a	n/a	n/a	no dataset available
England & Wales	2010	4 - n/a	n/a	n/a	no dataset available
Estonia	2000	3-P	Best Dataset	EVS 1999	measurement before estimation
Estonia	2010	3-P	Best Dataset	EVS 2008	objective before cultural dimension of religion, measurement before estimation, completeness of categories
Finland	2000	1-R	Mean Value but Census	Finland Census 2000	
Finland	2010	2-Pr	Mean Value	C&R 2006, Jewish Yearbook 2013*, EVS 2008,	

				ISSP (2008 & 2013), PEW 2010, Special Eurobarometer (2009, 2010, 2012), WRP 2010, YoMiE 2016*	
France	2000	3-P	Best Dataset	ISSP 1998	measurement before estimation, coverage of minorities
France	2010	3-P	Best Dataset	ESS 2010	objective before cultural dimension of religion, measurement before estimation, coverage of minorities, data point in temporal mean of period
Georgia	2000	1-R	Mean Value but Census	Georgia Census 2002	
Georgia	2010	2-Pr	Mean Value but Census	Georgia Census 2014	
Germany	2000	3-P	Best Dataset	WRP 2000	measurement before estimation, completeness of categories, coverage of minorities
Germany	2010	3-P	Best Dataset	EKD 2010	objective before cultural dimension of religion, country specific expert estimation
Germany East	2000	1-R	Mean Value	EVS 1999, ISSP 1998, Aufbruch 1997	
Germany East	2010	1-R	Mean Value	Aufbruch 2007, C&R 2006, Special Eurobarometer (2009, 2010)	
Germany West	2000	1-R	Mean Value	EVS 1999, ISSP 1998	
Germany West	2010	3-P	Best Dataset	Eurobarometer 2009	coverage of minorities
Greece	2000	2-Pr	Mean Value	EVS 1999, WRP 2000	
Greece	2010	2-Pr	Mean Value	Cipriani, Jewish Yearbook 2013*, EVS 2008, PEW 2010, Special Eurobarometer (2009, 2010, 2012), WCD 2010, WRP 2010, YoMiE 2016*	
Hungary	2000	3-P	Best Dataset	Aufbruch 1997	objective before cultural dimension of religion
Hungary	2010	3-P	Best Dataset	EVS 2008	objective before cultural dimension of religion
Iceland	2000	2-Pr	Mean Value	EVS 1999, WRP 2000	
Iceland	2010	3-P	Best Dataset	ISSP 2013	objective before cultural dimension of religion
Ireland	2000	2-Pr	Mean Value but Census	Ireland Census 2002	
Ireland	2010	2-Pr	Mean Value but Census	Ireland Census 2011	
Italy	2000	2-Pr	Mean Value	EVS 1999, ISSP 1998, RAMP 1999, WRP 2000, WVS 2005	
Italy	2010	2-Pr	Mean Value	Jewish Yearbook 2013*, ISSP 2008, PEW 2010, Religion Monitor 2007, Special Eurobarometer	

				(2009, 2010, 2012), Transatlantic Trends 2013, WRP 2010, YoMiE 2016*	
Kosovo	2000	4 - n/a	n/a	n/a	no dataset available
Kosovo	2010	2-Pr	Mean Value	EVS 2008, PEW 2010, WCD 2010, WRP 2010, YoMiE 2016*	
Latvia	2000	2-Pr	Mean Value	EVS 1999, ISSP 1998, WRP 2000	
Latvia	2010	3-P	Best Dataset	ISSP 2008	objective before cultural dimension of religion, measurement before estimation, completeness of categories
Liechtenstein	2000	1-R	Mean Value but Census	Liechtenstein Census 2000	
Liechtenstein	2010	1-R	Mean Value but Census	Liechtenstein Census 2010	
Lithuania	2000	2-Pr	Mean Value but Census	Lithuania Census 2001	
Lithuania	2010	3-P	Best Dataset	EVS 2008	measurement before estimation, completeness of categories, coverage of minorities
Luxembourg	2000	2-Pr	Mean Value	EVS 1999, WRP 2000	objective before cultural dimension of religion
Luxembourg	2010	2-Pr	Mean Value	Jewish Yearbook 2013*, EVS 2009, PEW 2010, Special Eurobarometer (2009, 2010, 2012), WCD 2010, WRP 2010, YoMiE 2016*	
Macedonia	2000	2-Pr	Mean Value but Census	Macedonia Census 2002	
Macedonia	2010	3-P	Best Dataset	PEW 2010	completeness of categories, coverage of minorities
Malta	2000	2-Pr	Mean Value	EVS 1999, WRP 2000	
Malta	2010	2-Pr	Mean Value	Jewish Yearbook 2013*, EVS 2008, PEW 2010, Special Eurobarometer (2009, 2010, 2012), WCD 2010, WRP 2010, YoMiE 2016*	
Monaco	2000	3-P	Best Dataset	WRP 2000	only one dataset available
Monaco	2010	2-Pr	Mean Value	PEW 2010, WCD 2010, WRP 2010	
Montenegro	2000	3-P	Best Dataset	WVS 2001	only one dataset available
Montenegro	2010	2-Pr	Mean Value but Census	Montenegro Census 2011	
Netherlands	2000	2-Pr	Mean Value	EVS 1999, ISSP 1998, RAMP 1999, WVS 2005	
Netherlands	2010	3-P	Best Dataset	Transatlantic Trends 2013	objective before cultural dimension of religion, measurement before estimation, coverage of minorities
Northern Ireland	2000	2-Pr	Mean Value	ISSP 1998, Northern Ireland Life and Times Survey 2004	
Northern Ireland	2010	3-P	Best Dataset	EVS 2008	only one dataset available

Norway	2000	1-R	Mean Value	ISSP 1998, RAMP 1999, WRP 2000	
Norway	2010	2-Pr	Mean Value	Jewish Yearbook 2013*, ISSP 2008, ISSP 2013, PEW 2010, Special Eurobarometer 2010, WRP 2010, WVS 2007, YoMiE 2016*	
Poland	2000	1-R	Mean Value	Aufbruch 1997, EVS 1999, ISSP 1998, RAMP 1999, WRP 2000, WVS 2005	
Poland	2010	2-Pr	Mean Value but Census	Poland Census 2011	
Portugal	2000	2-Pr	Mean Value but Census	Portugal Census 2001	
Portugal	2010	2-Pr	Mean Value but Census	Portugal Census 2013	
Republic of Moldova	2000	2-Pr	Mean Value but Census	Moldova Census 2004	
Republic of Moldova	2010	2-Pr	Mean Value	Aufbruch 2007, Cipriani 2010, Jewish Yearbook 2013*, EVS 2008, PEW 2010, WCD 2010, WRP 2010, WVS 2006, YoMiE 2016*	
Romania	2000	2-Pr	Mean Value but Census	Romania Census 2002	
Romania	2010	2-Pr	Mean Value	Aufbruch 2007, Cipriani 2010, Jewish Yearbook 2013*, EVS 2008, PEW 2010, Special Eurobarometer (2009, 2010, 2012), Transatlantic Trends 2013, WRP 2010, WVS 2012, YoMiE 2016*	
Russia	2000	3-P	Best Dataset	EVS 1999	objective before cultural dimension of religion, measurement before estimation
Russia	2010	3-P	Best Dataset	WVS 2011	objective before cultural dimension of religion, coverage of minorities
San Marino	2000	3-P	Best Dataset	WRP 2000	only one dataset available
San Marino	2010	2-Pr	Mean Value	WRP 2010, PEW 2010	
Scotland	2000	3-P	Best Dataset	Scotland Census 2001	only one dataset available
Scotland	2010	4 - n/a	n/a	n/a	no dataset available
Serbia	2000	2-Pr	Mean Value but Census	Serbia Census 2002	
Serbia	2010	2-Pr	Mean Value but Census	Serbia Census 2011	
Slovakia	2000	2-Pr	Mean Value but Census	Slovakia Census 2001	
Slovakia	2010	2-Pr	Mean Value	Aufbruch 2007, Jewish Yearbook 2013*, EVS 2008, ISSP (2008, 2013), PEW 2010, Special Eurobarometer (2009, 2010, 2012), Transatlantic Trends 2013, WCD 2010, WRP 2010, YoMiE 2016*	
Slovenia	2000	2-Pr	Mean Value	Aufbruch 1997, EVS 1999, ISSP 1998, WRP 2000, WVS 2005	

Slovenia	2010	2-Pr	Mean Value	Aufbruch 2007, Jewish Yearbook 2013*, EVS 2008, ISSP (2008, 2013), PEW 2010, Special Eurobarometer (2009, 2010, 2012), WRP 2010, WVS 2011, YoMiE 2016*	
Spain	2000	2-Pr	Mean Value	ESS (2002, 2004), EVS 1999, ISSP 1998, WRP 2000, WVS 2000	
Spain	2010	2-Pr	Mean Value	Jewish Yearbook 2013*, ESS (2006, 2008, 2010, 2012, 2014), EVS 2008, ISSP (2008, 2013), PEW 2010, Religion Monitor 2007, Special Eurobarometer (2009, 2010, 2012), Transatlantic Trends 2013, WCD 2010, WRP 2010, WVS (2007, 2011), YoMiE 2016*	
Sweden	2000	2-Pr	Mean Value	EVS 1999, ISSP 1998, RAMP 1999, WRP 2000, WVS 1999	
Sweden	2010	3-P	Best Dataset	WVS 2011	objective before cultural dimension of religion, measurement before estimation, coverage of minorities
Switzerland	2000	2-Pr	Mean Value but Census	Switzerland Census 2000	
Switzerland	2010	3-P	Best Dataset	ESRK 2014	measurement before estimation, coverage of minorities
Turkey	2000	1-R	Mean Value	EVS 1999, WVS 2001	
Turkey	2010	2-Pr	Mean Value	Jewish Yearbook 2013*, ISSP 2013, PEW 2010, Religion Monitor 2007, Special Eurobarometer (2009, 2010), Transatlantic Trends (2012, 2013), WCD 2010, WVS (2007, 2011), YoMiE 2016*	
Ukraine	2000	3-P	Best Dataset	Razumkov 2000	objective before cultural dimension of religion, measurement before estimation, coverage of minorities
Ukraine	2010	3-P	Best Dataset	DHS 2007	objective before cultural dimension of religion, measurement before estimation, coverage of minorities
United Kingdom	2000	2-Pr	Mean Value	BSA (1996-2005), ESS (2002, 2004), ISSP 1998, RAMP 1999, WVS 2005	
United Kingdom	2010	3-P	Best Dataset	British Social Attitudes Survey 2013	measurement before estimation, coverage of minorities
Vatican City	2000	4 - n/a	n/a	n/a	no dataset available
Vatican City	2010	2-Pr	Mean Value	Cipriani, PEW 2010, WCD 2010	

Remark: Periods: 1996-2005 = Period 2000 and 2006-2015 = Period 2010; Degrees of Pluralisation: 1-R = Reliable / 2-Pr = Probably reliable / 3-P = Problematic / 4-n/a = Data not available; Datasets with * are used and weighted as Expert-datasets. For citation of the different data sets see www.smre-data.ch; Source: www.smre-data.ch (27-2-2018).

10.3 Additional Tabulations

Appendix K: Data Quality
Reporting Period 1996-2005

1 – reliable	2 – probably reliable	3 – problematic	4 – not available
Austria	Bosnia and Herzegovina	Albania	Cyprus North
Croatia	Greece	Andorra	England & Wales
Cyprus South	Iceland	Armenia	Kosovo
Denmark	Ireland	Azerbaijan	Vatican City
Finland	Italy	Belarus	
Georgia	Latvia	Belgium	
Germany East	Lithuania	Bulgaria	
Germany West	Luxembourg	Cyprus	
Liechtenstein	Macedonia	Czech Republic	
Norway	Malta	Estonia	
Poland	Netherlands	France	
Turkey	Northern Ireland	Germany	
	Portugal	Hungary	
	Republic of Moldova	Monaco	
	Romania	Montenegro	
	Serbia	Russia	
	Slovakia	San Marino	
	Slovenia	Scotland	
	Spain	Ukraine	
	Sweden		
	Switzerland		
	United Kingdom		
12	*22*	*19*	*4*

Remark: n = 57, 50 countries and 7 sub-regions; Source: SMRE-estimates 01/2018, www.smre-data.ch.

Appendix L: Data Quality
Reporting Period 2006-2015

1 – Reliable	2 – Probably reliable	3 – Problematic	4 – Not available
Andorra	Armenia	Albania	England & Wales
Cyprus	Austria	Belarus	Scotland
Cyprus South	Azerbaijan	Belgium	
Germany East	Bosnia and Herzegovina	Cyprus North	
Liechtenstein	Bulgaria	Czech Republic	
	Croatia	Estonia	
	Denmark	France	
	Finland	Germany	
	Georgia	Germany West	
	Greece	Hungary	
	Ireland	Iceland	
	Italy	Latvia	
	Kosovo	Lithuania	
	Luxembourg	Macedonia	
	Malta	Netherlands	
	Montenegro	Northern Ireland	
	Monaco	Russia	
	Norway	Sweden	
	Poland	Switzerland	
	Portugal	Ukraine	
	Republic of Moldova	United Kingdom	
	Romania		
	San Marino		
	Serbia		
	Slovakia		
	Slovenia		
	Spain		
	Turkey		
	Vatican City		
5	*29*	*21*	*2*

Remark: n = 57, 50 countries and 7 sub-regions; Source: SMRE-estimates 01/2018, www.smre-data.ch.

Appendix M: Countries by Degree of Religious Pluralisation in the SMRE
Reporting Period 1996-2005

Region (A-Z)	Classification	Largest Religion(s)
Albania	Dominant	Muslim
Andorra	Dominant	Catholic
Armenia	Dominant	Orthodox
Austria	Dominant	Catholic
Azerbaijan	Dominant	Muslim
Belarus	Pluralised	No religious affiliation, Orthodox
Belgium	Pluralised	Catholic, No religious affiliation
Bosnia and Herzegovina	Pluralised	Muslim
Bulgaria	Dominant	Orthodox
Croatia	Dominant	Catholic
Cyprus	Dominant	Orthodox
Cyprus South	Dominant	Orthodox
Czech Republic	Dominant	No religious affiliation
Denmark	Dominant	Protestant
Estonia	Dominant	No religious affiliation
Finland	Dominant	Protestant
France	Pluralised	Catholic, No religious affiliation
Georgia	Dominant	Orthodox
Germany	Fragmented	
Germany East	Dominant	No religious affiliation
Germany West	Pluralised	Protestant, Catholic
Greece	Dominant	Orthodox
Hungary	Pluralised	Catholic, No religious affiliation
Iceland	Dominant	Protestant
Ireland	Dominant	Catholic
Italy	Dominant	Catholic
Latvia	Pluralised	No religious affiliation
Liechtenstein	Dominant	Catholic
Lithuania	Dominant	Catholic
Luxembourg	Dominant	Catholic
Macedonia	Dominant	Orthodox
Malta	Dominant	Catholic
Monaco	Dominant	Catholic
Montenegro	Dominant	Orthodox
Netherlands	Pluralised	No religious affiliation
Norway	Dominant	Protestant
Poland	Dominant	Catholic
Portugal	Dominant	Catholic
Republic of Moldova	Dominant	Orthodox
Romania	Dominant	Orthodox
Russia	Pluralised	No religious affiliation, Orthodox
San Marino	Dominant	Catholic
Serbia	Dominant	Orthodox

Slovakia	Dominant	Catholic
Slovenia	Dominant	Catholic
Spain	Dominant	Catholic
Sweden	Dominant	Protestant
Switzerland	Pluralised	Catholic
Turkey	Dominant	Muslim
Ukraine	Dominant	Orthodox
United Kingdom	Pluralised	No religious affiliation
Northern Ireland	Pluralised	Protestant, Catholic
Scotland	Pluralised	Protestant

Remark: "Dominant" means that the largest religious group holds 60 per cent or more of the population / "Pluralised" stands for a country in which the largest group is in the range of 35 to 60 per cent / "Fragmented" means that no religious group holds a share larger than 35 per cent of the total population; Data not available for Cyprus North, England & Wales, Kosovo and Vatican City; Source: SMRE-estimates 01/2018, www.smre-data.ch.

Appendix N: Countries by Degree of Religious Pluralisation in the SMRE
Reporting Period 2006-2015

Region (A-Z)	Classification	Largest Religion(s)
Albania	Pluralised	Muslim
Andorra	Dominant	Catholic
Armenia	Dominant	Orthodox
Austria	Dominant	Catholic
Azerbaijan	Dominant	Muslim
Belarus	Dominant	Orthodox
Belgium	Pluralised	Catholic, No religious affiliation
Bosnia and Herzegovina	Pluralised	Muslim
Bulgaria	Dominant	Orthodox
Croatia	Dominant	Catholic
Cyprus	Dominant	Orthodox
Cyprus North	Dominant	Muslim
Cyprus South	Dominant	Orthodox
Czech Republic	Dominant	No religious affiliation
Denmark	Dominant	Protestant
Estonia	Dominant	No religious affiliation
Finland	Dominant	Protestant
France	Pluralised	No religious affiliation, Catholic
Georgia	Dominant	Orthodox
Germany	Fragmented	
Germany East	Dominant	No religious affiliation
Germany West	Pluralised	Catholic
Greece	Dominant	Orthodox
Hungary	Pluralised	No religious affiliation, Catholic
Iceland	Dominant	Protestant
Ireland	Dominant	Catholic
Italy	Dominant	Catholic
Kosovo	Dominant	Muslim
Latvia	Pluralised	No religious affiliation
Liechtenstein	Dominant	Catholic
Lithuania	Dominant	Catholic
Luxembourg	Dominant	Catholic
Macedonia	Pluralised	Orthodox, Muslim
Malta	Dominant	Catholic
Monaco	Dominant	Catholic
Montenegro	Dominant	Orthodox
Netherlands	Pluralised	No religious affiliation
Norway	Dominant	Protestant
Poland	Dominant	Catholic
Portugal	Dominant	Catholic
Republic of Moldova	Dominant	Orthodox
Romania	Dominant	Orthodox
Russia	Dominant	Orthodox

San Marino	Dominant	Catholic
Serbia	Dominant	Orthodox
Slovakia	Dominant	Catholic
Slovenia	Dominant	Catholic
Spain	Dominant	Catholic
Sweden	Pluralised	Protestant
Switzerland	Pluralised	Catholic
Turkey	Dominant	Muslim
Ukraine	Dominant	Orthodox
United Kingdom	Pluralised	No religious affiliation
Northern Ireland	Pluralised	Protestant
Vatican City	Dominant	Catholic

Remark: "Dominant" means that the largest religious group holds 60 per cent or more of the population / "Pluralised" stands for a country in which the largest group is in the range of 35 to 60 per cent / "Fragmented" means that no religious group holds a share larger than 35 per cent of the total population; Data not available for England & Wales, Northern Ireland and Scotland; Source: SMRE-estimates 01/2018, www.smre-data.ch.

Appendix O: Countries by Degree of Religious Pluralisation in the SMRE
Reporting Period 1996-2005

Dominant *The largest religious group (category) accounts for at least 60 percent of the total population.*	Albania, Andorra, Armenia, Austria, Azerbaijan, Bulgaria, Croatia, Cyprus, Cyprus South, Czech Republic, Denmark, Estonia, Finland, Georgia, Germany East, Greece, Iceland, Ireland, Italy, Liechtenstein, Lithuania, Luxembourg, Macedonia, Malta, Monaco, Montenegro, Norway, Poland, Portugal, Republic of Moldova, Romania, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Turkey, Ukraine
Pluralised *At least one religious group (category) accounts for 35 to 60 percent of the total population.*	Belarus, Belgium, Bosnia and Herzegovina, France, Germany West, Hungary, Latvia, Netherlands, Russia, Switzerland, United Kingdom, Northern Ireland, Scotland
Fragmented *No religious group (category) exceeds a proportion of 35 percent of the total population.*	Germany

Remark: Data not available for Cyprus North, England, & Wales, Kosovo and Vatican City; Source: SMRE-estimates 01/2018, www.smre-data.ch.

Appendix P: Countries by Degree of Religious Pluralisation in the SMRE
Reporting Period 2006-2015

Dominant *The largest religious group (category) accounts for at least 60 percent of the total population.*	Andorra, Armenia, Austria, Azerbaijan, Belarus, Bulgaria, Croatia, Cyprus, Cyprus North, Cyprus South, Czech Republic, Denmark, Estonia, Finland, Georgia, Germany East, Greece, Iceland, Ireland, Italy, Kosovo, Liechtenstein, Lithuania, Luxembourg, Malta, Monaco, Montenegro, Norway, Poland, Portugal, Republic of Moldova, Romania, Russia, San Marino, Serbia, Slovakia, Slovenia, Spain, Turkey, Ukraine, Vatican City
Pluralised *At least one religious group (category) accounts for 35 to 60 percent of the total population.*	Albania, Belgium, Bosnia and Herzegovina, France, Germany West, Hungary, Latvia, Macedonia, Netherlands, Sweden, Switzerland, United Kingdom, Northern Ireland
Fragmented *No religious group (category) exceeds a proportion of 35 percent of the total population.*	Germany

Remark: Data not available for England & Wales, Northern Ireland and Scotland; Source: SMRE-estimates 01/2018, www.smre-data.ch.

Appendix Q: Countries with Catholics as largest religious group

Reporting Period 1996-2005

Country	Share of Catholics
Malta	96.3%
San Marino	95.0%
Poland	91.7%
Andorra	90.0%
Ireland	88.4%
Croatia	88.0%
Italy	84.5%
Portugal	84.5%
Liechtenstein	79.5%
Spain	79.3%
Lithuania	79.0%
Luxembourg	78.1%
Monaco	77.1%
Austria	73.8%
Slovakia	73.1%
Slovenia	68.0%
Belgium	57.7%
France	51.7%
Hungary	43.3%
Switzerland	42.0%
Germany	33.1%

Reporting Period 2006-2015

Country	Share of Catholic
Vatican City	98.0%
Poland	96.0%
Malta	94.4%
Andorra	87.4%
San Marino	87.4%
Croatia	86.3%
Italy	86.0%
Ireland	84.2%
Portugal	81.0%
Monaco	80.8%
Lithuania	80.3%
Liechtenstein	75.9%
Luxembourg	72.0%
Austria	71.9%
Spain	70.0%
Slovakia	69.4%
Slovenia	66.1%
Belgium	50.0%
Germany West	43.0%
Switzerland	38.0%

Remark: Data not available for Vatican City 2000; Source: SMRE estimates 1/18, www.smre-data.ch (27-2-2018).

Appendix R: Countries with Protestants as largest religious group

Reporting Period 1996-2005

Country	Share of Protestant
Iceland	91.3%
Denmark	87.2%
Norway	86.1%
Finland	85.2%
Sweden	75.5%
Northern Ireland	43.5%
Scotland	42.4%
Germany West	41.4%

Reporting Period 2006-2015

Country	Share of Protestant
Iceland	79.6%
Norway	74.8%
Finland	74.8%
Denmark	74.3%
Sweden	57.5%
Northern Ireland	39.1%

Remark: Data not available for England & Wales 2000 and 2010 and Scotland 2010; Source: SMRE estimates 1/18, www.smre-data.ch (27-2-2018).

Appendix S: Countries with Orthodox as largest religious group

Reporting Period 1996-2005

Country	Share of Orthodox
Cyprus South	94.8%
Greece	94.1%
Republic of Moldova	93.5%
Armenia	90.2%
Georgia	87.8%
Romania	87.0%
Serbia	85.0%
Bulgaria	74.7%
Montenegro	69.1%
Cyprus	69.0%
Ukraine	66.0%
Macedonia	64.8%

Reporting Period 2006-2015

Country	Share of Orthodox
Cyprus South	94.9%
Armenia	92.9%
Greece	91.3%
Republic of Moldova	88.2%
Georgia	86.3%
Romania	85.3%
Serbia	85.1%
Bulgaria	78.2%
Ukraine	73.2%
Montenegro	72.1%
Cyprus	69.7%
Belarus	61.6%
Russia	60.7%
Macedonia	58.9%

Source: SMRE estimates 1/18, www.smre-data.ch (27-2-2018).

Appendix T: Countries with Muslim as largest religious group

Reporting Period 1996-2005

Country	Share of Muslim
Turkey	97.3%
Azerbaijan	90.0%
Albania	65.9%
Bosnia and Herzegovina	40.2%

Reporting Period 2006-2015

Country	Share of Muslim
Turkey	97.8%
Cyprus North	96.0%
Azerbaijan	95.6%
Kosovo	88.8%
Albania	52.5%
Bosnia and Herzegovina	50.7%

Remark: Data not available for Cyprus North 2000 and Kosovo 2000; Source: SMRE estimates 1/18, www.smre-data.ch (27-2-2018).

Appendix U: Countries with "No Religious affiliated" as largest group

Reporting Period 1996-2005

Country	Share of No Religious affiliated
Estonia	75.1%
Germany East	68.7%
Czech Republic	66.4%
Netherlands	50.7%
Russia	49.5%
Belarus	47.8%
United Kingdom	43.9%
Latvia	40.3%

Reporting Period 2006-2015

Country	Share of No Religious affiliated
Czech Republic	71.0%
Estonia	68.8%
Germany East	68.1%
United Kingdom	50.6%
France	50.5%
Netherlands	46.0%
Hungary	45.3%
Latvia	39.4%
Germany	33.1%

Source: SMRE estimates 1/18, www.smre-data.ch (27-2-2018).