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**Article**

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CESifo Forum

**Provided in Cooperation with:**

Ifo Institute – Leibniz Institute for Economic Research at the University of Munich

*Suggested Citation:* Arold, Benjamin W.; Woessmann, Ludger; Zierow, Larissa (2022) : Religious Education in School Affects Students' Lives in the Long Run, CESifo Forum, ISSN 2190-717X, ifo Institut - Leibniz-Institut für Wirtschaftsforschung an der Universität München, München, Vol. 23, Iss. 03, pp. 40-43

This Version is available at:

<https://hdl.handle.net/10419/263855>

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# Religious Education in School Affects Students' Lives in the Long Run\*

## ABSTRACT

Being exposed to compulsory religious education in school can have long-run consequences for students' lives. At different points in time since the 1970s, German states terminated compulsory religious education in public schools and replaced it by a choice between ethics classes and religious education. This article shows that the reform not only led to reduced religiosity in students' later life, but also eroded traditional attitudes towards gender roles and increased labor-market participation and earnings.

The proper relationship between churches and the state has been a deeply contested matter throughout long stretches of history. This is particularly true for the role of churches in public schools. Most Western school systems have their historical roots with the churches. When states tried to transform church-run schools into non-denominational mass education systems during the 19th century, they faced fierce resistance by the churches (Ramirez and Boli 1987; West and Woessmann 2010). The churches wanted to ensure that schools taught children to become good Christians. Likewise, states used the public school systems for indoctrination, social cohesion, and socialization (Lott 1999; Gradstein and Justman 2002; Pritchett and Viarengo 2015).

But does it matter? Can school curricula in fact change students' religious attitudes and lives

in the long run? After all, religious attitudes might be deeply rooted in humans' personality and family socialization.

Religious attitudes are certainly an important component of people's personalities and values. In the World Values Survey, 82 percent of participants belong to a religious denomination, 71 percent say that religion is important in their life, and 57 percent pray several times a week (Inglehart et al. 2014). Recently, the Covid-19 pandemic saw a strong surge in prayer globally (Bentzen 2020). Studies in the economics of religion clearly show that religiosity has important consequences for individual outcomes and economic development (Iannaccone 1998; Iyer 2016; McCleary and Barro 2019; Becker, Rubin, and Woessmann 2020). Becker and Woessman (2009, 2013, 2018) and Becker, Nagler and Woessman (2017) have documented various aspects of the role of religion in German economic history.

In a new paper (Arold, Woessmann, and Zierow 2022), we show that being exposed to compulsory religious education in school indeed affects students' religiosity in adulthood. We also find effects beyond the religious sphere on family and labor-market outcomes, consistent with churches conveying specific family and worldly norms.

## A GERMAN REFORM THAT TERMINATED COMPULSORY RELIGIOUS EDUCATION

Our analysis exploits the unique German setting where a reform abolished compulsory religious education in a staggered way across states beginning in the 1970s. The 1949 Constitution of West Germany had formally enshrined religious education as the only subject that is institutionalized as a regular sub-

\* This article was first published on VoxEU.org, <https://voxeu.org/article/religious-education-school-affects-students-lives-long-run>, 3 March 2022.



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ject in public schools, so that religious education was a compulsory subject in state curricula. Religious education was very intense: High-school graduates were exposed to roughly 1,000 hours of religious education over their school career – more than four times the hours of physics classes, for example.

The compulsory nature of religious education was changed in the different German states at different points in time, from Bavaria in 1972 to North Rhine-Westphalia in 2004. The reform replaced the obligation to attend religious education with the option to choose between denominational religious education and “ethics” as a non-denominational subject. By competitive pressures, introducing this choice option also changed the content of religious classes and likely altered overall social norms towards religion. A particularly interesting feature of the reform is that the counterfactual to compulsory religious instruction is not to have no value-oriented instruction, but rather *non-denominational* value-oriented instruction. As a consequence, the reform allows us to identify the impact of the religious part of instruction, holding the overall exposure to value-oriented instruction constant.

Given the staggered adoption of the reform, we use the variation in the abolishment of compulsory religious education across states and over time to study reform effects on outcomes in adulthood in two-way fixed effects models. Accounting for fixed effects for each state and birth year, the series of reforms provides plausibly exogenous variation in individuals’ exposure to compulsory religious education that can be exploited in a difference-in-differences setting. Effects were identified from differences in adult outcomes between cohorts within the same state that were and were not subject to compulsory religious education, relative to the differences between the same cohorts in other states that did not have reform events at the same time.

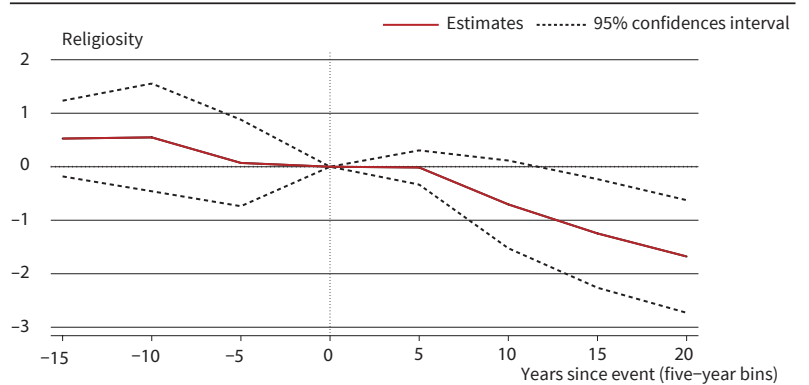
We use three datasets, each of which allows us to link religious (as well as family and labor-market) outcomes of adults to their state and time of schooling in childhood: the National Educational Panel Study (NEPS), the German General Social Survey (ALLBUS), and the German Socio-Economic Panel (SOEP). Our merged dataset combines up to 58,000 observations of adults who entered primary school between 1950 and 2004.

### THE REFORM REDUCED STUDENTS’ RELIGIOSITY IN ADULTHOOD

Our results show that schools can affect religious outcomes later in life. We find that the abolishment of compulsory religious education significantly decreased the religiosity of affected students in adulthood. As indicated in Figure 1, individuals who entered school after the reform report significantly lower levels of religiosity. On average, the reform

Figure 1

#### The Effect of Abolishing Compulsory Religious Education on Religiosity



Source: Arold, Woessmann and Zierow (2022).

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reduced the share of people reporting to be religious by about 3 percentage points (compared to an average incidence of 52 percent) and of those reporting to be very religious by 2 percentage points (average 11 percent).<sup>1</sup> The figure also shows that reforming states did not have significantly different trends in religiosity in the years prior to reform compared to non-reforming states. This finding is consistent with the identifying assumption that the exact timing of the reform in the different states is as good as random.

We find reductions not just in general religiosity, but also in different measures that capture specific religious actions: the personal act of prayer, the public act of going to church, and the formal act of church membership (which is also a costly act in Germany due to its connection to paying church taxes). The effects on religiosity and personal prayer phase in gradually over time. Effects are mostly restricted to predominantly Catholic rather than Protestant counties.

### EFFECTS BEYOND RELIGIOSITY

Historically, the churches promoted traditional religious family role models, advocating gender-specific roles in families and marriage before cohabitation. Correspondingly, we find that the reform led to more equitable and less conservative attitudes towards gender roles and family norms later in life. For example, abolishing compulsory religious education reduced the likelihood to think that men are better suited for certain professions than women by 8 percent of a standard deviation. Recent studies suggest that gender norms are important determinants for lifetime outcomes (Kleven et al. 2019; Jayachandran 2021), but it is not well understood where these norms come from. Our results show that changes in school curricula can impact gender norms, implying that they are malleable in public settings outside the family.

<sup>1</sup> The outcome variable “religiosity” in Figure 1 is standardized.

The abolishment of compulsory religious education also affected actual family outcomes. It reduced the probability of being married by 1.5 percentage points and decreased the number of children by 0.1 children per respondent.

The reform may additionally have affected economic behavior and outcomes. The Bible quotes Jesus as saying, “It is easier for a camel to go through the eye of a needle than for someone who is rich to enter the kingdom of God” (Mark 10:24-27, Luke 18:24-27). In line with these Christian values, the decrease in religiosity may have promoted materialistic orientation. The reduction in time used for various religious actions may have induced a substitution effect towards economic activities (Barro and McCleary 2003; Gruber and Hungerman 2008). The reduced time required to raise (fewer) children may have changed decisions about family and career planning. The change of gender roles may have opened up better labor-market opportunities for women. In addition, leaving the church means a reduction in the tax rate on labor income in Germany, increasing incentives to work.

Our results show that the reform indeed led to increases in labor-market participation (+ 1.5 percentage points), working hours (+ 0.6 hours per week), and earnings (+ 5.3 percent). Overall, the results suggest that the reform impacted people’s lives well beyond the religious sphere.

In contrast, there is no evidence that the reform affected ethical values and behavior such as reciprocity, trust, volunteering, and life satisfaction, nor political values and behavior such as political interest and leaning, voting, and satisfaction with democracy. It appears that the counterfactual of attending non-denominational ethics classes was equivalent to attending religious-education classes in terms of these outcomes. This speaks against concerns in the policy debate at the time that abolishing compulsory religious education may deteriorate students’ ethical orientation.

The reform is also unrelated to placebo outcomes such as years of schooling, type of school degree, or age of first employment. Consequently, the identifying variation is unlikely to capture alternative sources such as other contemporaneous educational reforms – which is corroborated by the fact that results do not change when conditioning on a range of other educational reforms. Results are also robust when restricting the sample to individuals who attend school in counties neighboring each other across state borders and including county-pair fixed effects, so that the identifying variation is restricted to close geographic areas.

## SCHOOLS EXERT LIFETIME INFLUENCES

In sum, we find that students who were subject to compulsory religious education in school do indeed

show higher religiosity when they are adults. The school reform also affected their family and economic outcomes.

There is ample evidence that the quality of teachers and institutional features of school systems have important effects on students’ academic achievement and later labor-market success (Hanushek 1986; Chetty, Friedman and Rockoff 2014; Woessmann 2016). Our results indicate that the content of the school curriculum exerts a lifetime influence on students, too, even on inner attitudes and values such as religiosity. What you learn in school is indeed for life.

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