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Secularization – still going strong? What remains when cross-sectional differences are eliminated from a longitudinal analysis

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Overview

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1.2 Micro hypotheses: Belonging and Choice

1.3 Aims of study

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1 Secularization Theory

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Secularization - Inevitably on two levels

"Secularization" macro social tendency statement: *Religiosity decreases in Western societies*. Not yet a theory. How from tendency statement to theory?

Religiosity on aggregate level. As a quality of persons, depends on other qualities of persons. To be controlled for:

- Without controls, *gross* tendency captures development AND changes of conditions of religiosity within countries.

- With controls, tendency *net* of changes of composition within countries, reflects societal developments only.

Therefore secularization *theory* contains two kinds of hypotheses

- macro: societal determinants of secularization, *core*

- micro: personal determinants of religiosity, *indispensable complement*

1.1 Macro hypotheses: Decreasing religiosity with differentiation and pluralization

Social differentiation: The more differentiated a society

- the richer it becomes: people are able to plan and govern their lives more easily and need to explain life through powers beyond decreases
- the more a person's life is split up into different areas: people have more chances and more resources

Yet increasingly richer and broader life seen through world-view acquired at home and at school. Depends on

- conditions during the formative years of youth, on wealth or scarcity
- experiences during life course, resulting from opportunities and character of a person.

Cultural pluralization inserted into causal chain:

differentiation-pluralization-secularization

1.2 Micro hypotheses

Belonging over Choice

Religious question: Where from and where to? Answered by religion and churches.

Religiosity: personal appropriation of teachings of religion and practices of churches. Handed down as a whole to the ones born into community, at first no choice. Yet growing up: what has been self-evident becomes a matter of reflection. From belonging to a community to choices within and between communities.

Belonging over choice hypothesis: As belonging is given and has formed religiosity before its impact may be relativized by choice, it should have stronger effects on religiosity than choice.

Belonging: family, school, and church; parents, teachers and priests = formative agents with *authority* over flock

Determines how strong community persists from generation to generation; strongest during childhood and youth, the formative years – relativized by later experiences

The higher the authority of the formative agents during the formative years, the more religious their flock. Yet as the authority of the formative agents is inevitably shattered during the life course, choices are required.

Choices, depending on reflexivity and self-transcendence

Distancing from belonging requires capacities to discern and to evaluate, costs courage and intellectual exertion.

Reflexivity hypothesis: the higher someone's capabilities to dare and to justify choices, the stronger the inclination to distance oneself from religion.

Natural self-concern reduced by life-time transitions which require commitment to others = self-transcendence, looking beyond one's life, under religious question.

Commitments via family: children, surviving one's life span, religious question into *foreground* of consciousness.

Occupational life = self-actualization in success, religious question into *background* of consciousness.

Self-transcendence hypothesis: Life cycle transitions

- which imply self-transcendence increase religiosity
- which strengthen natural self-concern decrease religiosity.

1.3 Aims of study

Substantively, controls *belonging* (cohort, denomination), compares with *choice*

Statistically, models the three levels of longitudinal multi-level data – persons, country*time, and country – with appropriate error structure, relative strength of each level across different predictor sets.

Statistically, splits effects of independent macro variables into a *time-constant mean* and *time-varying deviations.* Separates cross-sectional differences in *level* of secularization from *developments* of secularization within each country

2 Data

2.1 Data set

European Social Survey (ESS) round 1-8, 2002 and 2016, except Turkey and Israel, listwise exclusion of all cases with missing values.

Two country samples:

(1) *All*: 19 Western, 11 Eastern Europe. 178 country*time samples; 309,523 respondents.

(2) *Reduced*: missing macro variables, 26 countries. 162 country*time samples, 279,962 respondents.

2.2 Dependent variable

Church attendance: Apart from special occasions such as weddings and funerals, about how often do you attend religious services nowadays? 7 Every day. 6 More than once a week. 5 Once a week. 4 At least once a month. 3 Only on special holy days. 2 Less often. 1 Never.

Strongly skewed to non-attendance.

Self-attributed religiosity : Regardless of whether you belong to a particular religion, how religious would you say you are? 0 not at all religious – 10 very religious, with numbers but no labels in between.

Peak at 6 and – somewhat – smaller at 0.

Transformation under Normal distribution

To approximate normality, variables recoded as z-values under *cumulative standard normal distribution,* M= 0, S<D=1, restricted range.

Two advantages for data interpretation

- raw regression coefficients of dummy variables can be compared between regressions of the two dependent variables
- intercept and regression coefficients can be re-transformed as percentages under the standard normal distribution, compared between different regressions of the same dependent variable.

2.3 Independent Macro Variables and hypotheses

Differentiation: four indicators

Directly: *development of wealth*, gains of material well-being for everybody. Instead of GDPpc **(1) Actual Individual Consumption (AIC)** of households in Purchase Power Units, all goods and services a household consumes irrespective of whether these are provided by the household itself, the state or organizations.

- *Increasing wealth should put the religious question in the background of people's mind and pave the way for secularization.*

Indirectly: positive hypothetical consequence, increase of *social security.* Positive indicator: **(2) social spending** as percentage of GDP. Negative indicator: **(3) unemployment** as percentage of work force.

- *Social security should put the religious in the background of everyday life and pave the way for secularization.*

Indirectly: *negative* hypothetical consequence. Wealth creates leeway for redistribution policy in every nation. Decreases *social inequality* measured by the **(4) Gini-Index**. Inequality: a trigger of religiosity for the well-off who search for a legitimation of their privilege in this world by a transcendent order – and for the worse-off who hope for a compensation of their pain by a salvation in another world.

- *With the decrease of inequality, the need for religion should decrease and the way to secularization be paved.*

Pluralization: four indicators

Directly: increasing *diversity* of denominations, as measured by the **(5) Herfindahl index**. Shatters inherited convictions and decrease religiosity according to the conventional understanding of secularization – or instigates clerics to pastoral care and laymen to confess their convictions according to the economic theory of religion.

- *Diversity may pave or not pave the way to secularization.*

Indirectly: positive hypothetical consequence. Increase of media supply, expansion of higher education, the growth of cities multiplies and diversifies supply of modes of thinking and acting. It requires more and more abilities to discriminate, judge, and choose; fosters *rationalization.* Three indicators: **(6) the number of TV channels,** (7) the percentage of population with **tertiary education**, and the (8) percentage of the **urban population**.

- *With rationalization handed down convictions are shattered and secularization is furthered.*

2.4 Independent Micro Variables and Hypotheses

Belonging: Cohort

Two propositions for cohorts.

- religiosity starts on a lower level with each younger cohort.
- religiosity remains constant within cohorts or decreases, does not increase.

Negative cohort succession hypotheses: With each younger cohort religiosity decreases monotonously, and within each cohort it remains constant or decreases, but does in any case not increase.

Ten-year bracket of birth years from 1 *before 1925* to 9 *after 1994,* such that *religiosity should decrease with higher order number of cohorts*.

Belonging: Denomination

increases religiosity as such, and the seniority of the denomination in the evolution of the monotheistic religions may grant them a stronger grip on its constituency.

Ancientness hypotheses: Catholics > Orthodox > Muslims > Protestants > non-members.

Excluded: Jews because of minority position, Eastern religions because of marginal position in ESS sample.

Question formulation: Do you consider yourself as belonging to any particular religion or denomination? Yes. - Which one? 0 No-Denomination, 1 Roman Catholic, 2 Protestant, 3 Orthodox, Other Christian and Jewish, 4 Islamic, 5 Other (Eastern and other religion).

Choice

Reflexivity: education and urban living

Self-transcendence:

- Positive: Legal marriage and widowhood. Parenthood.
- Negative: Working hours

Control variables

Gender: 1 female, 0 male

Social class:

- Getting along well with income 4 – not well 1

Table 1 Hypotheses about the macro and micro effects upon religiosity

Analysis Level, Label of hypothesis	Subdimension	Indicator	Sign
Macro			
- Secularization tendency		Time	-
- Differentiation	Wealth	AIC	-
	Social security	% spending of GDP	-
		% unempl., w. force	+
	Inequality	Gini	+
- Pluralization	Diversity	Herfindahl	-(+)
	Rationalization	% tertiary educated	-
		TV channels	-
		% urban	-
Micro: Belonging			
- Negative cohort succession		Age cohort	-
- Ancientness		Denomination	+
Micro: Choice			
- Reflexivity		Education	-
		Urbanization	-
- Self-transcendence		Married	+
		Parenthood	+
		Workhours	-

2 Results

Questions and models

(0) Distribution of variance over three levels of analysis: country, country*time, and individuals.

- *Null model* **(M00)**, no predictors, yardstick for following models

(1) What is the best representation of time? years added to M00 as:

- dummies **(M01)**
- linear function **(M02)**
- linear and quadratic function **(M03)**

(2) Given the best representation of time, how far is secularization conditioned by country specific distributions of individual level variables? Two *individual models*:

- only variables of belonging **(M11)**
- additionally variables of choice **(M12)**.

*(3) G*iven the control of demographic distributions, how good can the remaining variances between and within countries over time be explained by differentiation and pluralization? Two *random intercept models*:

- all 8 differentiation and pluralization variables **(M21)**
- 1 differentiation variable and 1 pluralization variable **(M22)**.

3. Results: Multi-level longitudinal analysis

Mixed effects models for church attendance (ATT) and self-attributed religiosity (SELF), null (M0) and individual level (M1) models: Error variance distribution in countries (C), country*time samples (CT) and individuals (P), and (BIC)

				ATT				SELF		
		#P	C	CT	P	BIC	C	CT	P	BIC
M00	Variances	1	.123 (15.6)	.003 (0.4)	.662 (84.0)	752308.73	.099 (11.1)	.007 (0.8)	.786 (88.2)	805569.81
M01	M00 + year dummies	9	.123	.002	.662	752346.40	.099	.004	.786	805598.97
M02	M00 + year linear	2	.122	.002	.662	752273.83	.098	.005	.786	805529.64
M03	M02 + year quadratic	3	.122	.002	.662	752283.81	.099	.004	.786	805538.89
M11	M02 + belonging	17	.038	.002	.494	661588.84	.036	.005	.557	698957.88
M12	M11 + choice	37	.038	.002	.485	656399.45	.037	.005	.542	690792.47
M00R	Var. reduced sample	1	.124	.003	.659	679654.30	.096	.006	.792	731386.42
M12R	M12 reduced sample	37	.036	.002	.479	590371.73	.037	.004	.543	625551.22
M21	M12R + 8 country var	53	.015	.002	.479	590348.63	.027	.004	.543	625527.77
M22	M12R + 2 country var	41	.022	.002	.479	590358.19	.034	.004	.543	625538.08

For M0 and M1 models, except M00R and M12R: N of countries: 30, n of country*time samples: 178, n 309 523. For M00R, M12R, M21, and M22: no of countries 26, n of country*time samples 162, no of respondents 279,962. - #P: number of fixed parameters. R behind model number, based on reduced sample.

3.1 Null models

M00: Relative size of variances

Same results for both dependent variables

M00 percentages, ICC:

- Country > 10%,
- Country*time < 1%
- Persons > 85%

Secularization *process* very slow. Bulk of secularization in cross-sectional designs describes country differences.

Relative sizes of country and person level variances: European countries still religiously very homogeneous due to Christian tradition.

M01, M02, M03: direction and form of secularization

Again: Same results for both dependent variables

No longer percentages, but *original metric*

M01: Year dummies reduce country and country*time variance, leave person variance unaffected.

M02: Time linear > same results.

M03: adding quadratic time worsens fit. BIC increases.

BIC in M02 lowest. Time best represented as linear > All further models

3.2 Individual level model: Belonging and choice

Table 3: For both dependent variables

- M11: Adding *belonging* picks up more than two thirds of country level variance and more than a quarter of person level variance, leaves the country*time variance unaffected.
  - 12,1 % of variance of church attendance
  - 13,2 % of variance of self-attributed religiosity explained
- M12: Further adding *choice* variable only slightly decreases person level variance
  - 0,8 % of variance of church attendance
  - 1,2 % of the variance of self-attributed religiosity

First choice and then belonging: same relative impact

Belonging over choice hypothesis confirmed.

Church attendance: Time and Belonging

	M11	M12	M12R	M21	M22
Constant (2002, dummies=0)	-0.3906***	-0.5340***	-0.5166***	0.6250	0.0895
Year linear	-0.0012	-0.0022	-0.0029*	-0.0024	-0.0038
C1, before 1925 (ref.)					
C2, 1925-1934	0.0860***	0.0993***	0.1079***	0.1077***	0.1079***
C3, 1935-1944	0.0545*	0.0825**	0.0843**	0.0841**	0.0843**
C4, 1945-1954	-0.0395	0.0099	0.0066	0.0064	0.0066
C5, 1955-1964	-0.0934**	-0.0209	-0.0220	-0.0222	-0.0220
C6, 1965-1974	-0.1235**	-0.0394	-0.0401	-0.0403	-0.0401
C7, 1975-1984	-0.1606**	-0.0490	-0.0506	-0.0509	-0.0507
C8, 1985-1994	-0.1591***	-0.0204	-0.0239	-0.0242	-0.0240
C9, 1995 and after	-0.1182**	0.0197	0.0225	0.0223	0.0224
No-Denomination (ref.)					
Roman Catholic	0.9365***	0.9043***	0.8989***	0.8986***	0.8988***
Protestant	0.7041***	0.6745***	0.6690***	0.6690***	0.6690***
Orthodox, other Christians, Jewish	0.8898***	0.8701***	0.9880***	0.9874***	0.9876***
Muslim	1.0301***	1.0111***	1.0549***	1.0547***	1.0548***
Eastern, Other	0.8168***	0.8116***	0.7999***	0.8000***	0.7999***

Church attendance: Choice

	M11	M12	M12R	M21	M22
ISCED 0-1, primary (ref.)					
ISCED 2, middle secondary		-0.0507	-0.0424	-0.0422	-0.0424
ISCED 3-4, completed secondary		-0.0617*	-0.0512	-0.0511	-0.0512
ISCED 5-7, tertiary		-0.0318	-0.0197	-0.0196	-0.0197
Big City (ref.)					
Suburbs		-0.0291	-0.0319	-0.0318	-0.0319
Town/Small city		-0.0052	-0.0049	-0.0048	-0.0049
Country village		0.0608**	0.0607*	0.0607*	0.0608*
Farm, countryside		0.0956**	0.0968**	0.0968**	0.0969**
Ever children (no=ref.)		-0.0078	-0.0085	-0.0085	-0.0085
Married (no=ref.)		0.1173***	0.1176***	0.1176***	0.1176***
Work intensity		-0.0494***	-0.0499***	-0.0500***	-0.0499***
Female (male=ref.)		0.1217***	0.1130***	0.1130***	0.1130***
Comfortably on present income (ref.)					
Coping		0.0124	0.0113	0.0113	0.0112
Difficult		-0.0067	-0.0094	-0.0095	-0.0095
Very difficult		-0.0643**	-0.0754***	-0.0755***	-0.0757***

* p<0.05, ** p<0.01, *** p<0.001. Country level regression coefficients for M21 and M22 see table 7

Both dependent variables

- linear effect of time vanishes in M11 and M12
- Cohort succession and differential denominational distributions are responsible for *gross* secularization.

Effects of remaining variables differ between church attendance and self-attributed religiosity and between M11 and M12.

Separately described for each dependent variable.

Self-attributed religiosity: Time and Belonging

	M11	M12	M12r	M26	M27
Constant (2002, dummies=0)	-0.2170***	-0.3690***	-0.3571***	0.2681	-0.3804
Year	-0.0016	-0.0021	-0.0017	0.0105	0.0015
C1, before 1925 (ref.)					
C2, 1925-1934	-0.0765***	-0.0567***	-0.0537**	-0.0537**	-0.0537**
C3, 1935-1944	-0.1940***	-0.1492***	-0.1459***	-0.1459***	-0.1458***
C4, 1945-1954	-0.2888***	-0.2157***	-0.2133***	-0.2134***	-0.2133***
C5, 1955-1964	-0.3432***	-0.2446***	-0.2429***	-0.2430***	-0.2429***
C6, 1965-1974	-0.3826***	-0.2711***	-0.2738***	-0.2739***	-0.2738***
C7, 1975-1984	-0.4346***	-0.3007***	-0.3085***	-0.3085***	-0.3085***
C8, 1985-1994	-0.4800***	-0.3328***	-0.3455***	-0.3456***	-0.3455***
C9, 1995 and after	-0.5313***	-0.4006***	-0.4100***	-0.4099***	-0.4099***
No-Denomination (ref.)					
Roman Catholic	1.0027***	0.9682***	0.9700***	0.9700***	0.9700***
Protestant	0.8319***	0.8051***	0.8049***	0.8049***	0.8049***
Orthodox, other Christians, Jewish	1.0740***	1.0398***	1.1668***	1.1667***	1.1668***
Muslim	1.4204***	1.3793***	1.4214***	1.4215***	1.4215***

Church Attendance: Cohort effects

in M11

- mostly significant
- decrease completely monotonously between C3 and C7, and nearly monotonously for all cohorts
- high positive effects of the second and third oldest cohort: higher costs of attending for older people. Again lower effect of oldest cohort: selective mortality, small sample sizes ??
- decreasing negative effect in youngest cohort (16 in 2010 when entering survey): still strong impact of home and school.

In M12

- reduced, explained by choice variables
- effects from C5 onwards lose significance
- order retained

Negative cohort succession hypothesis confirmed, meaningful deviations in oldest and youngest cohorts

Church Attendance: Denomination effects

in M11

- significant: Muslims > Catholics > Orthodox > Eastern Religions > Protestants > No-Denomination
- Protestants <> No-Denomination more than twice as big as distances among all denominations

in M12

- effects reduced
- significances and rank order retained.

Self-attributed religiosity: Choice

	M11	M12	M12r	M26	M27
ISCED 0-1, primary (ref.)					
ISCED 2, middle secondary		-0.0824***	-0.0712***	-0.0712***	-0.0713***
ISCED 3-4, completed secondary		-0.1279***	-0.1114***	-0.1114***	-0.1114***
ISCED 5-7, tertiary		-0.1058***	-0.0891***	-0.0890***	-0.0891***
Big City (ref.)					
Suburbs		-0.0113	-0.0125	-0.0126	-0.0125
Town/Small city		-0.0004	-0.0015	-0.0015	-0.0015
Country village		0.0360	0.0322	0.0323	0.0323
Farm, countryside		0.0374	0.0374	0.0373	0.0373
Ever children (no=ref.)		0.0104	0.0103	0.0103	0.0103
Married (no=ref.)		0.0674***	0.0668***	0.0669***	0.0669***
Work intensity		-0.0464***	-0.0473***	-0.0473***	-0.0473***
Female (male=ref.)		0.2075***	0.2056***	0.2056***	0.2056***
Comfortably on present income (ref.)					
Coping		0.0206	0.0175	0.0176	0.0175
Difficult		0.0450**	0.0436*	0.0437*	0.0436*
Very difficult		0.0302	0.0355	0.0355	0.0355

Notes see table 7.

Self-attributed religiosity: Cohort effects

in M11

- all significant
- decrease completely monotonously

in M12

- reduced, explained by choice variables
- Retain significance and monotonicity

Negative cohort succession hypothesis confirmed

Self-attributed Religiosity: Denomination effects

in M11

- significant: Muslims > Eastern Religions > Orthodox > Catholics > Protestants > No-Denomination
- Protestants <> No-Denomination more than twice as big as distances among all denominations

in M12

- effects reduced
- significances and rank order retained.

Denomination effects
share top and tail for both dependent variables

Muslims > Catholics > Orthodox, Eastern > Protestants > No-Denomination

Rank order confirms *monotheism development* hypothesis only for Western Christian denominations

Choice effects on both dependent variables: M12, reflexivity hypothesis

Education:

- negative as expected, decrease slightly in the highest group
- less significant and much smaller for church attendance than for self-ascribed religiosity

Urban residence

- church attendance: significant and strong effect
- self-ascribed religiosity: no effects at all

Reflexivity hypothesis confirmed only partially

Choice effects on both dependent variables: M12, self-transcendence hyothesis

Children: No effect on both dependent variables

Married: positive effects on both

Work intensity: negative effects on both

Self-transcendence hypothesis partially confirmed

Control variables on both dependent variables: M12

Women: Positive on both

Subjective income: irregular

3.3. Intercept as dependent models

26 of 30 countries only; Russia, the Ukraine, Greece and Luxembourg lost; two of the three former Communist Orthodox countries in sample

40,000 respondents lost

M21: all eight macro variables simultaneously

M22: most important of differentiation and of pluralization, simultaneously: Social spending and Herfindahl

Mixed effects models for church attendance (ATT) and self-attributed religiosity (SELF), null (M0) and individual level (M1) models: Error variance distribution in countries (C), country*time samples (CT) and individuals (P), and (BIC)

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M22	M12R + 2 country var	41	.022	.002	.479	590358.19	.034	.004	.543	625538.08

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Mixed effects models for church attendance and self-ascribed religiosity: Intercept effects between and within countries

	Church Attendance		Self-ascribed Religiosity	
	M21	M22	M21	M22
Differentiation				
Actual Individual Consumption [B]	0.0000		0.0000	
Actual Individual Consumption [W]	0.0000		-0.0000	
..Social spending, % of GDP[B]	-0.0174*	-0.0184**	-0.0148	0.0050
Social spending, % of GDP [W]	0.0048	0.0022	0.0013	0.0020
..Unemployment, % labour force [B]	-0.0023		0.0088	
..Unemployment, % labour force [W]	-0.0025		0.0002	
..Gini, inequality [B]	-0.0029		-0.0188	
Gini, inequality [W]	0.0017		0.0017	
Pluralization				
Herfindahl, diversity [B]	-0.3280*	-0.3365**	-0.3064	-0.2205
Herfindahl, diversity [W]	0.0393	0.0415	-0.4213**	-0.3682**
TV chanels, N [B]	0.0026		0.0059	
TV chanels, N [W]	0.0004		0.0001	
Tertiary education, % population [B]	-0.0002		-0.0027	
Tertiary education, % population [W]	-0.0061		-0.0083	
Urbanisation, % of population [B]	-0.0089***		-0.0011	
Urbanisation, % of population[W]	0.0035		-0.0049	

Notes see tables N1 and N3.

M21: AIC as substitute for GDPpc

No effect on either dependent variable – neither between nor within countries

Between 2002 and 2016 AIC more stable than GDPpc

- GDPpc generally increased, but went up and down due to the 2008 crisis, could not affect religiosity in assumed monotonous form
- AIC increases significantly r=. 32 with linear, but not with quadratic time.

Yet AIC not better than GDPpc.

Lacking impact of AIC *between* countries contradicts *cross-sectional* multi-level analyses which

- did *not* control for cohort and/or and
- could *not* separate within and between effects

Yet if this is done, GDPpc or AIC no driving force of secularization

M21: Social spending, „security“ positive

In contrast to GDPpc, percentage of social spending *of the GDP*, no irregular development between 2002 and 2016; correlates with linear time r=.16, but not with quadratic time.

No effect on within country development of either dependent variables, but between country effect on church attendance

Separation of between and within effects allows comparison

- between effect is more than three times as big as within effect
- threefold of the observation time would be needed to attain the same effect of a specific cross-sectional difference between countries, that is, 42 years – whatever countries are chosen

Non-simultaneity of the simultaneous hidden in the cross-sectional comparison <> slowness of the process of secularization

Much time needed to attain the instantaneous differences between countries.

Cross-sectional perspective over-dramatizes “secularization”.

M21: Unemployment, „security“ negative

increases r=.12 with linear time, not quadratic

no effect in either perspective on either dependent variable

M21: Inequality

increases r=.11 with linear time, not quadratic

no effect in either perspective on either dependent variable

Regarding both of its indicators, the claims of “security” theory shrink drastically:

- Only one of four tests is in its favour
- the favourable result: between-country effect, causal?

M21: Pluralization: Herfindahl diversity

increases r=.39 with linear time, not quadratic

Between: lowers church attendance, as predicted by secularization theory and against the prediction of economic theory.

Within: negative effect on self-ascribed religiosity

M21: Pluralization:
TV, tertiary education, urbanization

increases r=.39., .50, and. 07 with time

One effect only

- Urbanization reduces church attendance between countries

Further macro-analyses

M21: Each of the eight predictors individually, same results

M22: Social spending and Herfindahl only, same result

Summary of multi-level longitudinal analyses

- secularization theory confirmed by all significant effects. But:
- pattern of results not in its favour

  insignificant tests are more numerous than significant ones

  not a single effect holds for both dependent variables

  most of significant effects are between countries, only one within

Secularization *gross process: yes - explanation by theory: ?* This due to:

- control of belonging: reduces variances on individual *and on country level*. Much of the secularization effects of former studies mis-specified
- Separation of between and within effects of country variables: not in former secularization studies

With the only exception of the Herfindahl index on self-attributed religiosity, all country effects, repeatedly proven cross-sectionally, disappear in *within* analysis.

Even many *between* effects disappear

4 Conclusion: Secularization theory?

Three possible reasons for its failure *in our study*

1. Time span too short.

2. Differentiation and pluralization diffuse concepts, loosely related to measurement.

- tried to justify subdimensions and indicators
- chose “work horses” of secularization theory
- Added cultural indicators, television supply.

3. Europe, even after demise of state socialism and inclusion of Orthodox countries and Muslim populations, religiously very homogenously Christian.

- all cross-sectional studies covering also non-European countries do not report the ICC
- secularization uniquely European development !?

Two lessons from our study in spite of its limitations

- cohort and denomination *must* be controlled for on individual level
- secularization in cross-sectional and in longitudinal perspective *must* be kept apart, conclusions from the former to the latter be drawn very cautiously.

- Thank you

Appendices

Table A1. Number of respondents in countries and waves of the ESS 2002 -2016, listwise deletion for individual level data

	Year								
Country	2002	2004	2006	2008	2010	2012	2014	2016	Total
AT Austria	1.991	1.950	2.006				1.701	1.848	9.496
BE Belgium	1.460	1.650	1.686	1.684	1.669	1.818	1.660	1.742	13.369
BG Bulgaria				2.071	2.262	2.131			6.464
CH Switzerland	1.885	2.056	1.721	1.705	1.433	1.437	1.455	1.446	13.138
CY Cyprus				1.108	928	1.051			3.087
CZ Czech Republic	1.125	2.274		1.762	2.139	1.555	1.838	2.057	12.750
DE Germany	2.789	2.661	2.677	2.610	2.926	2.794	2.954	2.773	22.184
DK Denmark	1.407	1.421	1.423	533	1.530	1.583	1.451		9.348
EE Estland		1.898	1.357		1.737	2.275	1.944	1.998	11.209
ES Spain	1.509	1.516	1.773	2.430	1.836	1.771	1.796	1.819	14.450
FI Finland	1.829		1.851	2.148		2.157	2.043	1.887	11.915
FR France			1.930	2.021	1.674	1.912	1.859	2.018	11.414
GB Great Britain	1.988			2.272	2.244	2.118	2.135	1.856	12.613
GR Greece*	2.342	2.220		1.935	2.559				9.056
HR Croatia				1.213	1.342				2.555
HU Hungary	1.509		1.416	1.461	1.491	1.766	1.558	1.451	10.652
IE Ireland	1.838	2.144	1.394	1.725	2.445	2.508	2.194	2.581	16.829
IS Iceland		463				624		828	1.915
IT Italy	1.075	1.458				744		2.202	5.479
LT Lithuania					1.429	1.869	1.961	1.766	7.025
LU Luxembourg*	1.145	1.482							2.627
NL Netherlands	2.274	1.800	1.841	1.724	1.762	1.801	1.860	1.637	14.699
NO Norway	1.821	1.737	1.709	1.527	1.513	1.597	1.413	1.524	12.841
PL Poland	1.909	1.562	1.575	1.468	1.532	1.704	1.449	1.453	12.652
PT Portugal	1.292	1.794	1.841	2.063	1.908	1.897	1.202	1.225	13.222
RU Russia*			1.883	1.932	2.133	1.933		1.862	9.743
SE Sweden	1.936	1.890	1.872	1.795	1.468	1.780	1.729	1.501	13.971
SI Slovenia	1.190	790	1.231	1.102	1.162	1.176	1.138	1.229	9.018
SK Slovakia		1.210	1.522	1.605	1.682	1.648			7.667
UA Ukraine*		1.727	1.661	1.410	1.587	1.750			8.135
Total	34.314	35.703	34.369	41.304	44.391	45.399	35.340	38.703	309.523

* country excluded in reduced sample because of lacking macro data

Table A2 Cohorts: Frequencies in %, Total N for waves

	Year								
Cohorts	2002	2004	2006	2008	2010	2012	2014	2016	Total
before 1925	4.23	2.9	2.42	1.47	0.90	0.58	0.38	0.15	1.55
1925-1934	9.51	8.15	7.90	6.50	5.44	4.24	3.76	2.60	5.90
1935-1944	13.31	13.07	12.33	11.58	10.85	10.43	9.50	8.35	11.12
1945-1954	17.06	16.38	16.07	15.50	14.8	15.09	14.74	14.54	15.47
1955-1964	18.32	18.20	18.26	17.89	17.67	17.37	17.12	16.4	17.64
1965-1974	18.07	17.19	16.84	16.76	16.97	16.93	16.95	17.52	17.14
1975-1984	14.84	15.93	14.96	16.24	15.60	15.47	15.74	15.69	15.57
1985-1994	4.68	8.18	11.22	14.05	16.32	15.49	14.37	14.48	12.63
after 1994					1.45	4.39	7.46	10.27	2.98
Total N (=100%)	34,314	35,703	34,369	41,304	44,391	45,399	35,340	38,703	309,523