



EVROPSKÁ UNIE
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**MS
MT**
MINISTERSTVO ŠKOLSTVÍ,
MLÁDEŽE A TĚLOVÝCHOVY

ECONOMICS AND GENDER

LECTURE 8

WHY ARE WOMEN MORE RELIGIOUS?

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WHY ARE WOMEN MORE RELIGIOUS THAN MEN?

RELIGIOUS HOUSEHOLD PRODUCTION (AZZI & EHRENBERG, 1975)

- First and simple model
 - Extention of Becker's (1965) seminal model
- Model of church attendance (allocation of time)
- Assumption: afterlife benefits depend on lifetime rel.activities
 - Salvation motive crucial (continuum of)
- Individuals allocate time and goods b/w religious and secular commodities
- Maximize lifetime & after-lifetime utility
 - After-life utility – goal of rel.participation
 - Major difference to standard HH PF

RELIGIOUS HOUSEHOLD PRODUCTION (AZZI & EHRENBERG, 1975)

- HH – 2 members
 - Both know date of death (poss.to relax)
 - both die the same time – end of period n
 - Both know their wages (exogenous)
- quasiconcave **utility function**
 - $U=U(C_1, C_2, \dots, C_t, \dots, C_n, q)$ (1)
 - C_t –consumption in period t
 - q – afterlife consumption

RELIGIOUS HOUSEHOLD PRODUCTION (AZZI & EHRENBERG, 1975)

- Consumption in period t given by **HH production function**
 - Transforms HH purchases of goods x_t and time allocations h_{1t}, h_{2t} (husband, wife) into final consumption C_t
 - $C_t = C(x_t, h_{1t}, h_{2t})$ for all t **(2)**
- Expected **afterlife consumption** -
 - Produced by praying
 - Ft of time spent for church by husband r_{1t} and wife r_{2t} in all periods of life-time
 - $q = q(r_{11}, r_{12}, \dots, r_{1n}, r_{21}, \dots, r_{2n})$
 - Non-believers: $q = 0$
 - Assume joint salvation

RELIGIOUS HOUSEHOLD PRODUCTION (AZZI & EHRENBERG, 1975)

○ One-period Income:

- p – price (fixed)
- w_1, w_2 – wages of husband, wife
- l_1, l_2 – hours of work
- v – exogenous non-labor income of HH

○ One-period budget constraint:

- All purchases = other income + work of man, woman
- $p x_t = v + w_1 l_1 + w_2 l_2$

○ Time constraint

- Total time = consumption + labor + praying
- $T_j = h_j + l_j + r_j, j=1,2$

RELIGIOUS HOUSEHOLD PRODUCTION (AZZI & EHRENBERG, 1975)

○ Life-time discounted income

- p – price (fixed)
- $w_{1t} w_{2t}$ – wages of husband, wife in period t
- l_{1t}, l_{2t} – hours of work in period t
- v – exogenous non-labor income of HH
- i – interest rate
- no heritage

Solve for I
and plug into

$$\sum_{t=1}^n [px_t/(1+i)^{t-1}] = \sum_{t=1}^n [(v + w_{1t}l_{1t} + w_{2t}l_{2t})/(1+i)^{t-1}]$$

Discounted lifetime expenses

Discounted lifetime income

- Each-period time constraint:

$$h_{jt} + r_{jt} + l_{jt} = T \text{ for } t = 1, 2, \dots, n \text{ and } j = 1, 2,$$

$$x_t, h_{jt}, r_{jt}, l_{jt} \geq 0 \quad \text{for all } t \text{ and } j.$$

RELIGIOUS HOUSEHOLD PRODUCTION (AZZI & EHRENBERG, 1975)

- Maximization problem:
 - Plug HH production ft. (2) into utility function (1)
 - We get **objective** function
 - Solve time-constraint for l_{1t}, l_{2t} and plug into discounted lifetime income -> constraint
 - Together we get Lagrangean function:

$$L = U[C(x_1, h_{11}, h_{21}), C(x_2, h_{12}, h_{22}), \dots, C(x_n, h_{1n}, h_{2n}), \\ q(r_{11}, \dots, r_{1n}, r_{21}, \dots, r_{2n})] + \lambda \left(\sum_{t=1}^n [px_t / (1+i)^{t-1}] \right. \\ \left. - \sum_{t=1}^n \left\{ v + \sum_{j=1}^2 w_{jt} (T - h_{jt} - r_{jt}) \right\} / (1+i)^{t-1} \right)$$

RELIGIOUS HOUSEHOLD PRODUCTION (AZZI & EHRENBERG, 1975)

- First-order conditions for interior solution require at the optimum

$$\underbrace{(\partial q / \partial r_{1t})} / (\partial q / \partial r_{2t}) = (w_{1t} / w_{2t}) \text{ for all } t.$$

Marginal product of afterlife benefits of one extra hour for religious activity in time t

- Implications:

- Suppose if fraction of time r of husband and wife same, marginal products of afterlife benefits production are equal
- If in period t wages are same for husband and wife, they devote same amount of time to religion
- **If wage for husband higher, wife prays more**

RELIGIOUS HOUSEHOLD PRODUCTION (AZZI & EHRENBERG, 1975)

- Assume that wages are constant over time for husband and wife (not necc. equal)
- Then the first-order conditions give

$$(\partial q / \partial r_{jt}) / (\partial q / \partial r_{jt-1}) = (1 + i)^{-1} \text{ for all } t \text{ and } j = 1 \text{ or } 2.$$

- i.e. HH members reallocate **more time to church attendance with increasing age**
- Reason: optimal to invest into secular assets early since they bring cumulative returns
 - E.g. Human capital
- Thus later on in optimum, investment in secular assets declines in favor of religious assets

RELIGIOUS HOUSEHOLD PRODUCTION (AZZI & EHRENBERG, 1975)

- If we relax the assumption of fixed wages and let them increase... $(\partial q / \partial r_{jt}) / (\partial q / \partial r_{jt-1}) = (w_{jt} / w_{jt-1}) (1 + i)^{-1}$
- The more rapid rate of wage increase, the slower will be rise in the investment in religious assets
- Men tend to have steeper wage profiles
 - **Women thus should increase the religious investments more than men with age**
- If wage increase larger than discounting factor, religious investment decreases
 - Early-on in career wages increase a lot - > U-shaped curve of rel.investments for young men
- if non-labor income increases, rel.investment increases

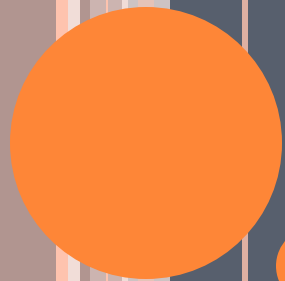
RELIGIOUS HOUSEHOLD PRODUCTION (AZZI & EHRENBERG, 1975)

- Easily extendable to account for direct satisfaction from participation at religious rituals
 - When salvation not important, no reason for increase with age
- If alternatives for market consumption limited -> higher rel.investment
 - **More participation in rural than urban areas**
 - **More participation of blacks due to discrimination**
- Introduction of uncertainty about the time of death
 - With increasing probability of death increased rel.participation

RELIGIOUS HOUSEHOLD PRODUCTION (AZZI & EHRENBERG, 1975)

Model summary

- Simple model able to explain many phenomena observed
- Easily extendable
 - Distinguish b/w time and contributions
 - Substitution effect b/w time and money
 - Wage profile endogenous
 - The more people believe in afterlife, the flatter wage earning curve
- Mixed empirical support (Iannaccone 1998)
 - Later models de-emphasize importance of afterlife beliefs, add collective side of rel.activity (club, rel. human capital, network effects)...



EMPIRICS



WHY ARE WOMEN MORE RELIGIOUS THAN MEN? EMPIRICS

- Theories
 - Gender-role socialization
 - Structural location
- Difficult to disentangle causal effects
- Health-related conditions
 - Relative deprivation
- Risk attitudes
- Social contact



RELIGION AND HEALTH

MASELKO & KUBZANSKY (2005)

Table 2
Religion, Spirituality and health in the GSS sample

	Women	Men
<i>Religiosity and Spirituality</i>	Percent	Percent
Weekly public activity*	32	23
Daily private activity*	61	43
Daily spiritual experience*	30	23
<i>Health and well-being outcomes</i>	Mean (SD)	Mean (SD)
Happiness	3.30 (0.67)	3.23 (0.69)
Self-rated health	3.07 (0.82)	3.04 (0.83)
Psychological distress	1.89 (0.72)	1.89 (0.75)

*Difference between genders significant at $p < 0.05$ using χ^2 test.



RELIGION AND HEALTH

MASELKO & KUBZANSKY (2005)

Table 3
Gender specific linear regression analyses of the association between public religious activity, private religious activity, spiritual experiences and health and well-being in separate models (models 1–3) and simultaneously (model 4)^a

	Self-rated health		Psychological distress		Happiness	
	Men beta (se)	Women beta (se)	Men beta (se)	Women beta (se)	Men beta (se)	Women beta (se)
<i>Model 1</i>						
Weekly public religious activity	0.37 (0.08)**	0.14 (0.07)*	-0.20 (0.07)**	-0.14 (0.06)*	0.36 (0.07)**	0.19 (0.06)**
<i>Model 2</i>						
Daily private religious activity	0.13 (0.07) ⁺	-0.02 (0.06)	-0.02 (0.06)	0.01 (0.06)	0.25 (0.06)**	0.12 (0.06)*
<i>Model 3</i>						
Daily spiritual experiences	0.08 (0.08)	0.12 (0.07) ⁺	-0.06 (0.07)	-0.10 (0.06)	0.28 (0.07)**	0.29 (0.06)**
<i>Model 4</i>						
Weekly public religious activity	0.36 (0.08)**	0.14 (0.07) ⁺	-0.22 (0.07)**	-0.14 (0.07)*	0.28 (0.07)**	0.10 (0.07)
Daily private religious activity	0.02 (0.07)	-0.10 (0.07)	0.06 (0.07)	0.09 (0.07)	0.10 (0.07)	0.00 (0.06)
Daily spiritual experience	-0.01 (0.08)	0.11 (0.07)	-0.03 (0.08)	-0.08 (0.07)	0.18 (0.07)*	0.26 (0.06)**

Notes: The *p*-values represent the significance level of the linear regression coefficients for each type of religious activity/spirituality in separate, gender specific, models for each health outcome.

⁺ *p* < 0.10.

* *p* < 0.05.

** *p* < 0.01.

^a All models control for age, income, race, region of country and marital status.



RELIGION AND HEALTH: CAUSALITY

RELIGION AND HEALTH: CAUSALITY (BERGGREN & LJUNGE, 2017)

- Health – important variable influencing economic performance on micro and macro levels
- More than 11000 studies on this topic
 - Mostly correlations, positive associations
- Reversed causality problem!
- Trick: use data on children of immigrants
 - Share of religious in original country
 - Share of religious in the new country
 - Self-assessed health in new country
- 30 Euro countries



RELIGION AND HEALTH (BERGGREN & LJUNGE, 2017)

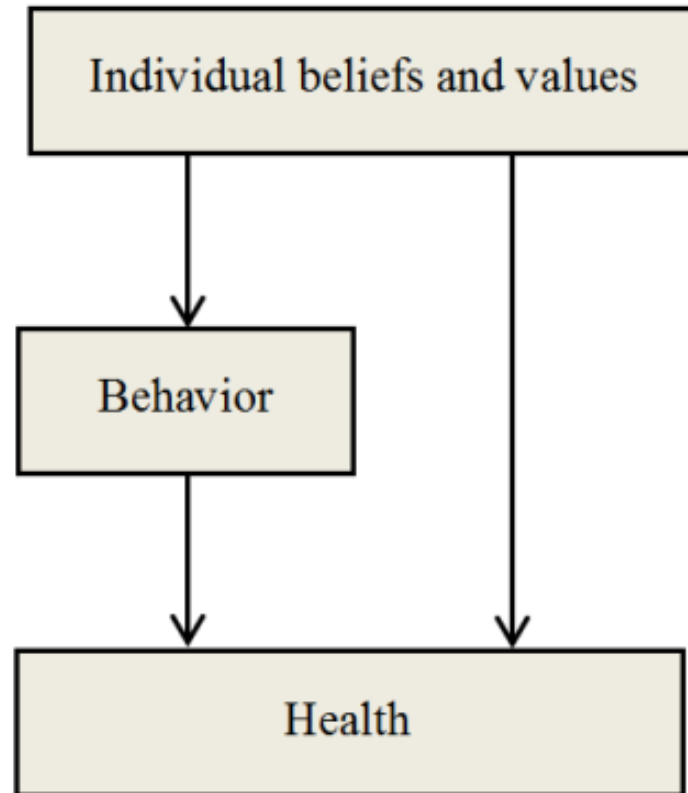


Figure 1. The mechanisms that link religiosity and health



RELIGION AND HEALTH

(BERGGREN & LJUNGE, 2017)

Table A2. Countries Participating in the ESS by Round.

Country	Survey Round:				
	1	2	3	4	5
Austria	X	X	X		
Belgium	X	X	X	X	X
Bulgaria			X	X	X
Cyprus			X	X	
Czech Republic	X	X		X	X
Denmark	X	X	X	X	X
Estonia		X	X	X	X
Finland	X	X	X	X	X
France	X	X	X	X	X
Germany	X	X	X	X	X
Greece	X	X		X	
Hungary	X	X	X	X	X
Ireland	X	X	X	X	
Israel	X			X	X
Italy	X	X			
Luxembourg	X	X			
Netherlands	X	X	X	X	X
Norway	X	X	X	X	X
Poland	X	X	X	X	X
Portugal	X	X	X	X	X
Russian Federation			X	X	X
Slovakia		X	X	X	
Slovenia	X	X	X	X	X
Spain	X	X	X	X	X
Sweden	X	X	X	X	X
Switzerland	X	X	X	X	X
Turkey		X		X	
Ukraine		X	X	X	
United Kingdom	X	X	X	X	X



RELIGION AND HEALTH (BERGGREN & LJUNGE, 2017)

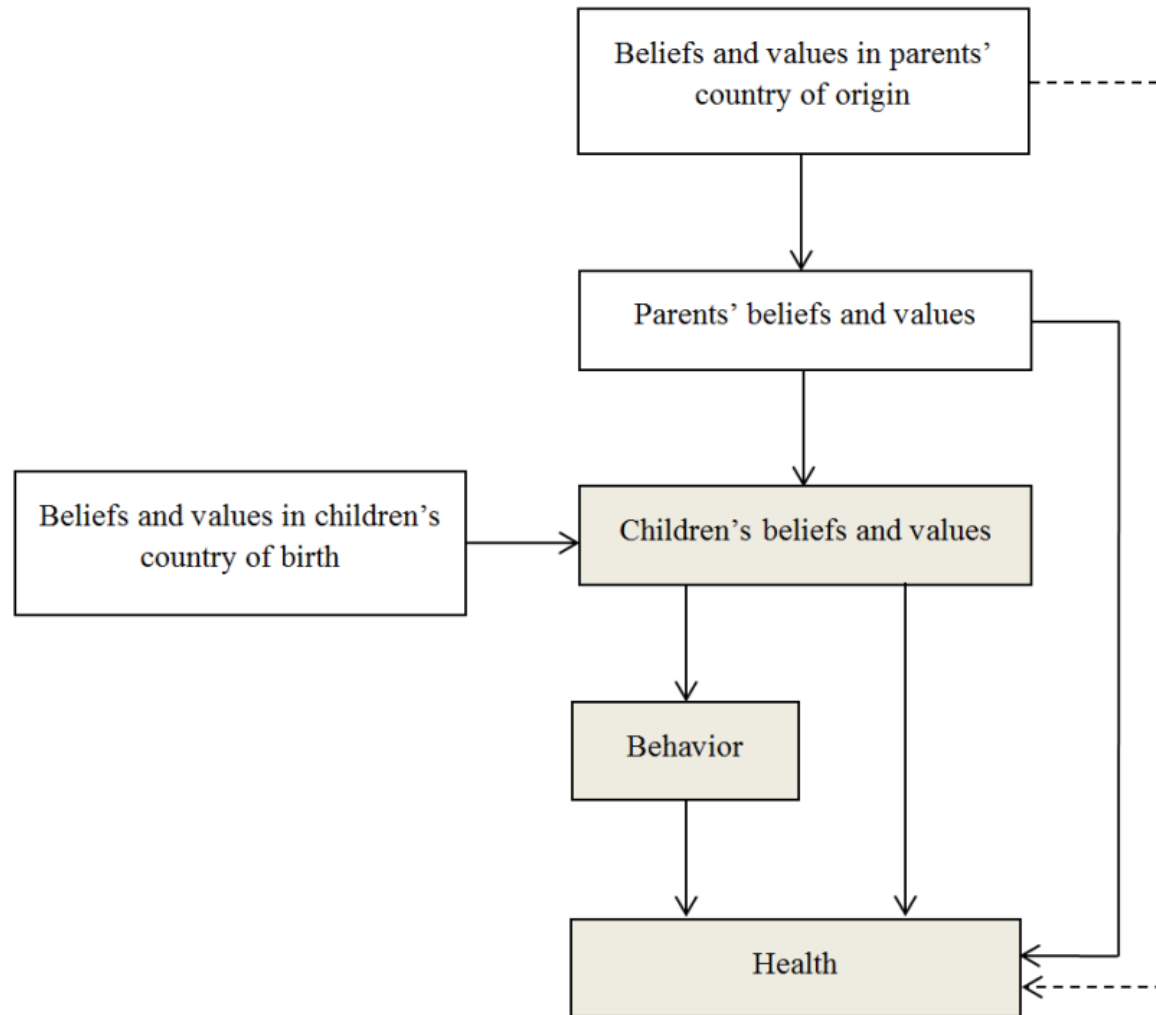


Figure 2. Health as a function of ancestral culture



RELIGION AND HEALTH (BERGGREN & LJUNGE, 2017)

Table 2. Health and religiousness. Baseline results.

Dependent variable: Self-assessed health status

Estimator:	OLS (1)	OLS (2)	OLS (3)	Ordered Logit (4)
Non-religious fraction year 1970,	0.253	0.180	0.157	0.408
mother's country of birth	(0.070)***	(0.065)***	(0.060)***	(0.157)***
Age	-0.010	-0.034	-0.032	-0.079
	(0.003)***	(0.004)***	(0.004)***	(0.009)***
Age squared/100	-0.012	0.014	0.013	0.032
	(0.004)***	(0.004)***	(0.004)***	(0.010)***
Female	-0.102	-0.077	-0.078	-0.183
	(0.021)***	(0.020)***	(0.021)***	(0.053)***
Married		0.076	0.077	0.143
		(0.027)***	(0.027)***	(0.062)**
Never married		0.037	0.030	0.070



RELIGION AND HEALTH (BERGGREN & LJUNGE, 2017)

Table 4. Health, happiness, and religiosity.

Dependent variable:	Self-assessed health status	Self-assessed health status	Self-assessed health status	Happiness	Life satisfaction
	(1)	(2)	(3)	(4)	(5)
Non-religious fraction year 1970, mother's country of birth	0.157 (0.062)**	0.148 (0.067)**	0.146 (0.067)**	0.183 (0.217)	0.313 (0.312)
Happiness	0.107 (0.007)***		0.063 (0.007)***		
Life satisfaction		0.097 (0.006)***	0.061 (0.006)***		
Individual controls	Yes	Yes	Yes	Yes	Yes
Country-by-year fixed effects	Yes	Yes	Yes	Yes	Yes
R-squared	0.338	0.341	0.349	0.177	0.228
Observations	7492	7502	7453	7508	7519

Notes: The dependent variable is self-assessed health, which ranges from 1, 'very bad' to 5 'very good.' All specifications study second generation immigrants and estimates the effect of religiousness in the mother's country of birth on self-assessed health. Religiousness is measured as the share of the population considered to be non-religious (agnostic or atheist) in 1970 in the mother's birth country. Individual controls include age, age squared, and gender. Country of residence-by-year fixed effects are included in all specifications. Data is from the second to fifth waves of the European Social Survey. Standard errors in parenthesis, which allow for clustering on the mother's birth country. Significance stars, * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.



RELIGION AND HEALTH (BERGGREN & LJUNGE, 2017)

- Robust **negative** causal effect!
 - Mostly positive correlations from other studies
- Suggested channels:
 - religious people being less concerned with life on earth
 - being more “fatalistic”
 - having lower trust,
 - having lower incomes
 - being more mentally strained by internal or external conflicts



NICHOLSON ET AL. (2009)

RELIGION AND HEALTH IN 22 EU COUNTRIES

Table 1

Descriptive data of sample in 22 European countries.

Code	Country	Response rate (%)	N (mean age in yrs)		Poor SRH (%)		Attend religious services			
			M	F	M	F	regularly (%)		never (%)	
							M	F	M	F
A	Austria	62	927 (43.9)	1100 (45.9)	3.7	5.6	15.2	15.8	30.6	25.1
B	Belgium	61	829 (45.7)	887(47.4)	2.9	6.1	8.9	10.5	57.1	50.6
Cz	Czech Republic	55	1175 (48.7)	1391 (49.6)	11.5	12.5	6.6	9.3	63.5	53.3
Dk	Denmark	65	678 (48.0)	718 (48.0)	5.3	4.5	2.5	3.6	40.3	25.8
Est	Estonia	79	747 (46.8)	1099 (50.4)	13.4	16.7	1.7	5.4	41.6	24.8
Fin	Finland	71	907 (47.7)	1007 (49.8)	4.5	5.9	2.9	6.1	28.0	18.6
Fr	France	44	814 (49.5)	942 (49.6)	7.1	8.8	4.9	8.7	57.9	45.0
D	Germany	53	1276 (47.6)	1360 (48.9)	9.6	11.0	6.4	10.6	48.7	38.5
Gr	Greece	79	1013 (50.7)	1312 (50.6)	3.6	8.2	15.9	31.6	5.8	1.8
H	Hungary	67	606 (46.9)	810 (48.9)	15.7	20.1	6.9	13.6	43.6	34.1
Irl	Ireland	63	894 (49.2)	1198 (48.3)	2.1	3.0	50.5	63.4	9.8	6.0
L	Luxembourg	50	781 (45.2)	707 (45.0)	7.2	8.5	9.6	17.5	34.2	29.0
NI	Netherlands	64	764 (48.9)	1060 (50.9)	4.1	6.0	11.1	14.4	55.6	47.7
N	Norway	66	877 (46.2)	810 (47.0)	6.0	7.4	5.1	5.1	40.0	35.2
Pl	Poland	74	749 (43.0)	803 (44.9)	12.8	13.7	49.1	61.0	7.1	3.4
P	Portugal	71	751 (48.1)	1135 (51.2)	10.1	19.1	19.7	35.9	31.6	16.7
Sk	Slovakia	63	612 (43.2)	623 (44.0)	9.5	12.7	28.3	35.8	27.3	20.2
Slo	Slovenia	70	582 (46.0)	698 (48.2)	10.0	15.2	11.2	20.3	27.3	22.1
E	Spain	55	779 (45.5)	748 (46.3)	7.6	12.3	14.9	23.8	44.9	34.4
S	Sweden	66	924 (47.6)	922 (49.1)	3.0	5.2	4.1	3.8	45.9	36.3
Ch	Switzerland	47	912 (47.5)	1164(49.9)	2.4	3.6	11.0	14.4	27.9	22.4
Tr	Turkey	51	737 (41.5)	915 (39.5)	5.0	13.8	62.3	7.8	11.7	48.9
	Total		18,323	21,373						



NICHOLSON ET AL. (2009)

RELIGION AND HEALTH IN 22 EU COUNTRIES

Table 2

Odds ratio for poor self-rated health from multilevel logistic regression models.

	Model 1: adj for age and education	Model 2 : + health	Model 3: + social contact	Model 4: + country-level	Final model: Fully adjusted
Men N = 18,328					
OR for poor SRH with attendance as a categorical variable					
Regular	1	1	1	1	1
Infrequent	1.19 [0.91–1.55]	1.19 [0.87–1.62]	1.16 [0.89–1.52]	1.19 [0.91–1.55]	1.16 [0.85–1.58]
Sporadic	1.40 [1.14–1.72]	1.40 [1.10–1.77]	1.37 [1.12–1.68]	1.40 [1.14–1.71]	1.37 [1.09–1.75]
Never	1.83 [1.49–2.26]	1.75 [1.37–2.23]	1.74 [1.41–2.15]	1.83 [1.48–2.25]	1.69 [1.32–2.16]
OR for poor SRH with attendance as a linear variable					
Attendance	1.23 [1.15–1.23]	1.21 [1.12–1.31]	1.21 [1.13–1.29]	1.23 [1.15–1.31]	1.20 [1.10–1.30]
Other co-variates					
Age	1.05 [1.04–1.05]	1.02 [1.02–1.03]	1.05 [1.04–1.05]	1.05 [1.04–1.05]	1.02 [1.01–1.02]
Education					
primary	1	1	1	1	1
secondary	0.49 [0.41–0.58]	0.56 [0.46–0.68]	0.51 [0.43–0.60]	0.49 [0.42–0.58]	0.59 [0.48–0.72]
university	0.33 [0.27–0.42]	0.49 [0.38–0.63]	0.37 [0.29–0.46]	0.34 [0.27–0.42]	0.53 [0.41–0.69]
No Longstanding illness		1			1
Yes – a little		18.91 [15.5–23.1]			18.48 [15.1–22.6]
Yes – a lot		124.3 [98.9–156]			118.7 [94–149]
Not married/cohabiting			1.13 [1.07–1.19]		1.06 [0.99–1.13]
No close discussion			1.41 [1.20–1.66]		1.34 [1.11–1.63]
Little social contact			1.91 [1.67–2.19]		1.60 [1.36–1.88]
Secularity index ^a				1.14 [0.89–1.47]	
GDP ^a				0.68 [0.55–0.83]	
GINI ^a				0.94 [0.73–1.21]	
Corruption scale ^a				1.39 [1.10–1.74]	1.48 [1.16–1.88]
Random effects					
SD of Intercept (SE)	0.692 (0.111)	0.761 (0.123)	0.656 (0.106)	0.496 (0.083)	0.610 (0.102)

NICHOLSON ET AL. (2009)

RELIGION AND HEALTH IN 22 EU COUNTRIES

Women $N = 21,373$

OR for poor SRH with attendance as a categorical variable

Regular	1	1	1	1	1
Infrequent	0.95 [0.79–1.13]	0.94 [0.76–1.17]	0.93 [0.78–1.11]	0.95 [0.79–1.13]	0.93 [0.75–1.16]
Sporadic	1.12 [0.97–1.29]	1.06 [0.89–1.26]	1.12 [0.97–1.29]	1.12 [0.97–1.29]	1.07 [0.90–1.27]
Never	1.38 [1.19–1.61]	1.18 [0.99–1.42]	1.34 [1.15–1.57]	1.38 [1.19–1.61]	1.18 [0.98–1.42]

OR for poor SRH with attendance as a linear variable

attendance	1.12 [1.06–1.18]	1.06 [1.00–1.13]	1.11 [1.05–1.17]	1.12 [1.06–1.18]	1.06 [1.00–1.13]
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Other co-variates

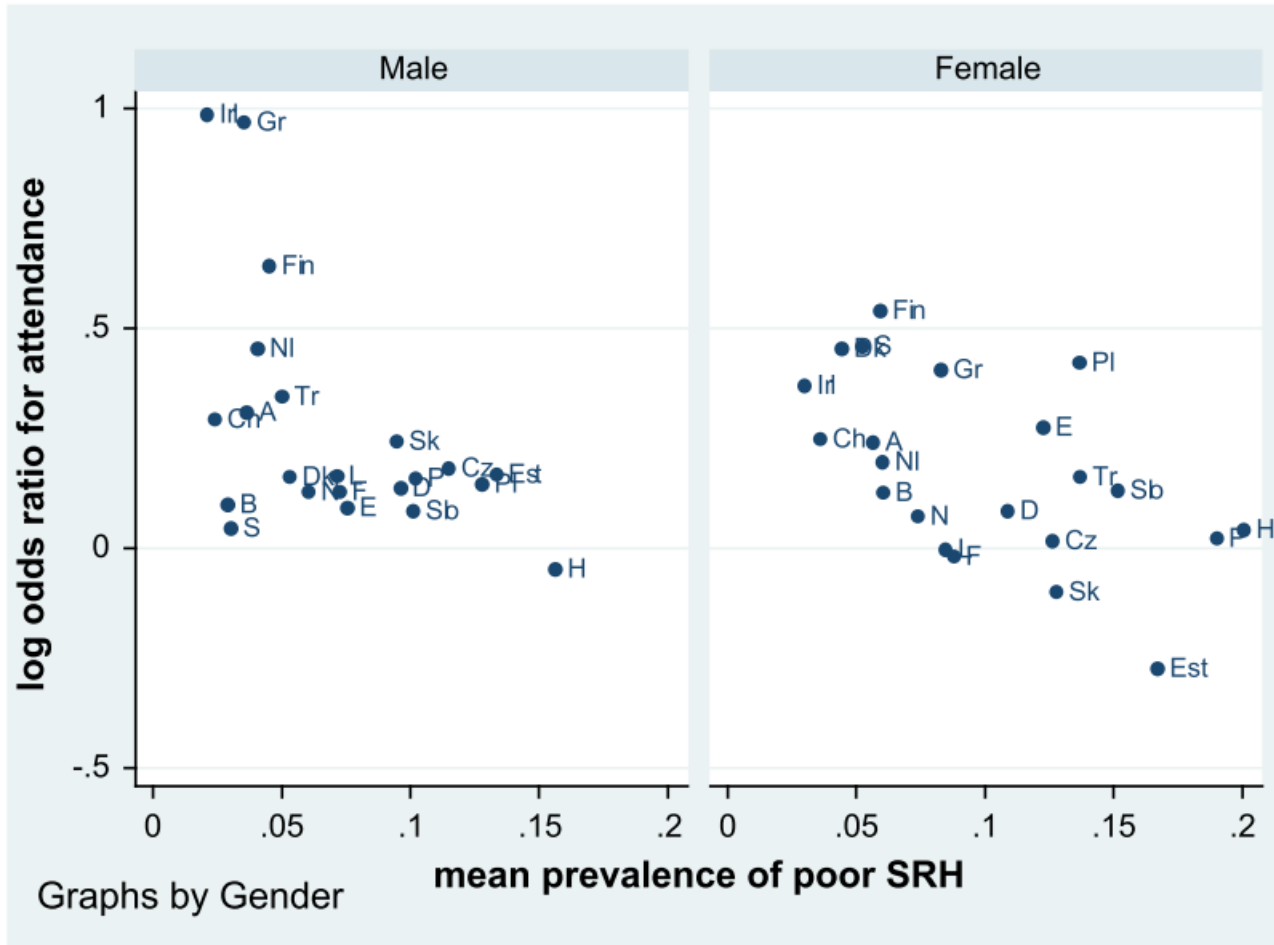
Age	1.05 [1.04–1.05]	1.02 [1.01–1.02]	1.04 [1.04–1.05]	1.05 [1.04–1.05]	1.02 [1.01–1.02]
Education					
primary	1	1	1	1	1
secondary	0.50 [0.44–0.58]	0.61 [0.52–0.71]	0.52 [0.46–0.60]	0.51 [0.45–0.58]	0.62 [0.53–0.73]
university	0.26 [0.21–0.32]	0.40 [0.32–0.51]	0.27 [0.22–0.33]	0.26 [0.21–0.32]	0.43 [0.34–0.54]
No Longstanding illness		1			1
Yes – a little		16.9 [14.4–19.8]			16.6 [14.1–19.4]
Yes – a lot		128.4 [106–156]			125.1 [103–152]
Not married/cohabiting			1.10 [1.05–1.15]		1.04 [0.99–1.10]
No close discussion			1.72 [1.51–1.95]		1.56 [1.33–1.83]
Little social contact			1.50 [1.34–1.68]		1.34 [1.16–1.54]
Secularity index ^a				0.97 [0.78–1.22]	
GDP ^a				0.66 [0.57–0.77]	
GINI ^a				1.04 [0.84–1.30]	
Corruption scale ^a				1.46 [1.23–1.74]	1.57 [1.27–1.96]
Random effects					
SD of Intercept (SE)	0.606 (0.096)	0.774 (0.122)	0.566 (0.090)	0.373 (0.062)	0.554 (0.089)

Models with attendance entered as a categorical variable were adjusted for same covariates as the models with attendance entered as a linear variable. Values for the other covariates and for the variance of the intercept are from the models with attendance as a linear variable.

NICHOLSON ET AL. (2009)

RELIGION AND HEALTH IN 22 EU COUNTRIES

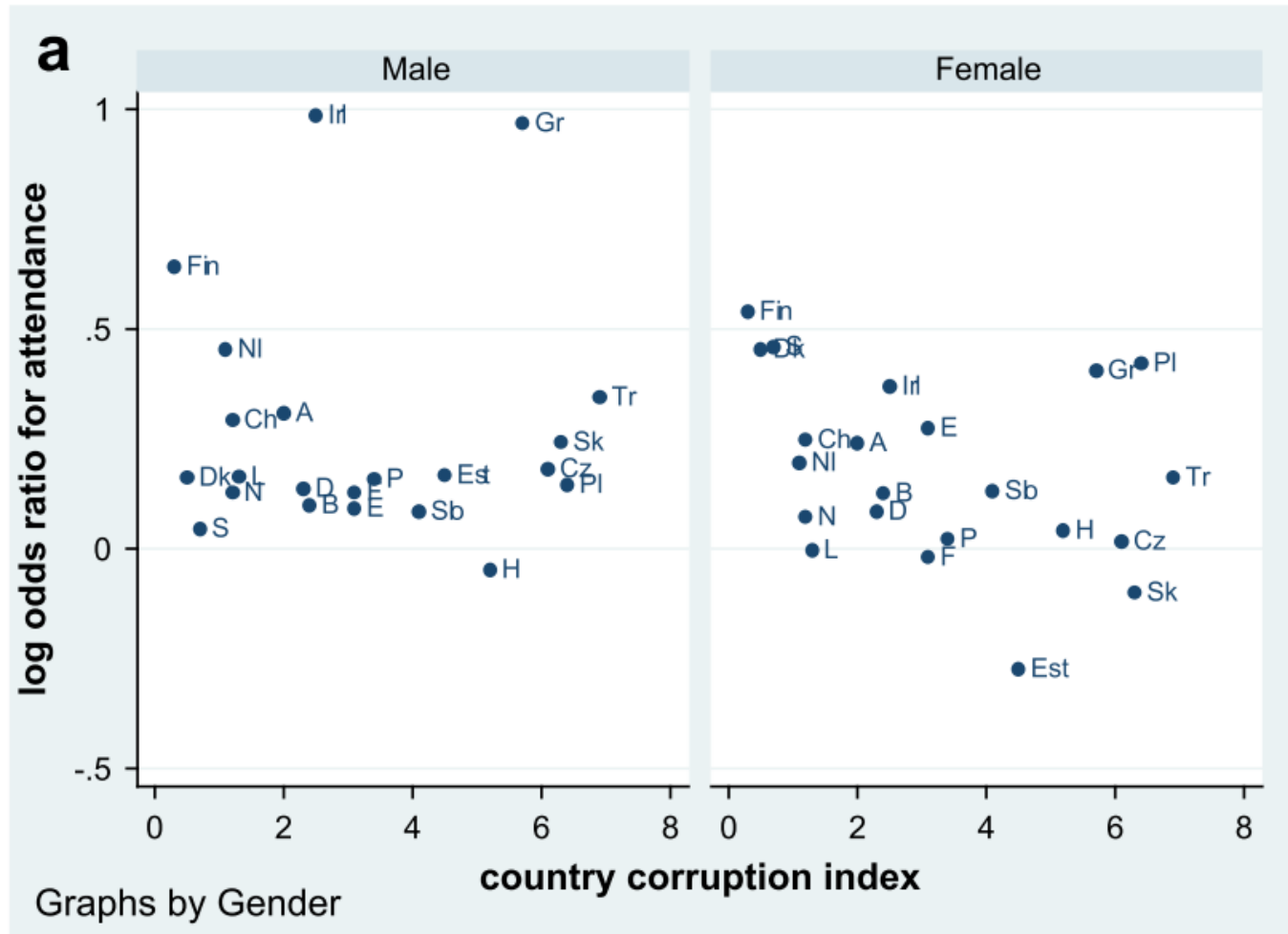
mean level of poor SRH in country



NICHOLSON ET AL. (2009)

RELIGION AND HEALTH IN 22 EU COUNTRIES

mean corruption score in country



MILLER AND HOFFMAN 1995: IS IT DUE TO ATTITUDES TO RISK?

TABLE 3

REGRESSION COEFFICIENTS FOR THE EFFECTS OF RISK PREFERENCE
ON GENDER DIFFERENCES IN RELIGIOSITY

Predictor Variables	Model 1		Model 2	
	b	Beta	b	Beta
Gender (female=1)	.200*** (.048)	.097	.124* (.049)	.061
Race (black=1)	.673*** (.081)	.197	.586*** (.082)	.171
Father's education	-.017 (.021)	-.022	-.016 (.021)	-.022
Mother's education	-.007 (.023)	-.009	-.006 (.023)	-.007
Rural	.088 (.049)	.043	.080 (.048)	.039
Risk Preference	—		-.058*** (.011)	-.134
Constant	2.543 (.101)		2.944 (.124)	
R ²		.051		.072
Number of cases	2,408		2,408	

* p < .05

** p < .01

*** p < .001

Note: Numbers in parentheses are standard errors.



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TABLE 4

TRIMMED MODEL OF THE EFFECTS OF RISK PREFERENCE ON RELIGIOSITY, BY GENDER

Predictor Variables	Male	Female	T-Value of Differ.
Race (black = 1)	.595*** (.115)	.550*** (.093)	.429
Risk Preference	-.051*** (.014)	-.067*** (.013)	1.183
Constant	2.871 (.108)	3.077 (.084)	
R ²	.042	.073	
Number of Cases	1,200	1,147	

* p < .05

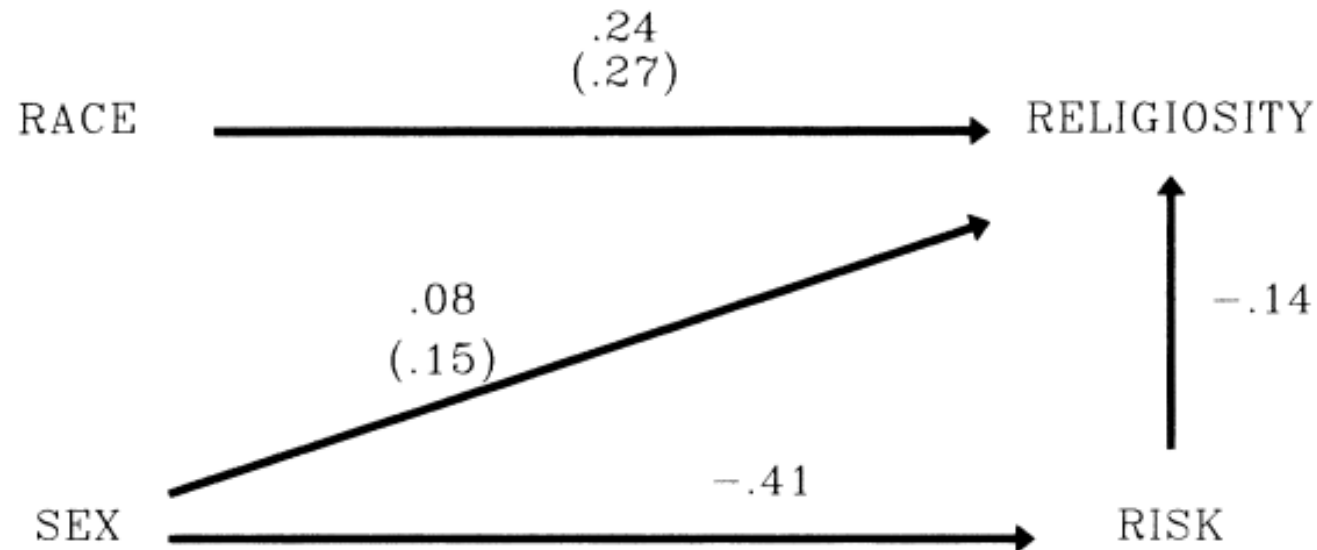
** p < .01

*** p < .001

Note: Numbers in parentheses are standard errors.



MILLER AND HOFFMAN 1995: IS IT DUE TO ATTITUDES TO RISK?



Note: Numbers in parentheses are coefficients when risk path is constrained to be zero.
All coefficients are significant at $p < .001$.

Model Fit:

N = 1850; AGFI = .95

Without Risk Path: ChiSq = 72.5; d.f. = 5

With Risk Path: ChiSq = 51.7; d.f. = 4

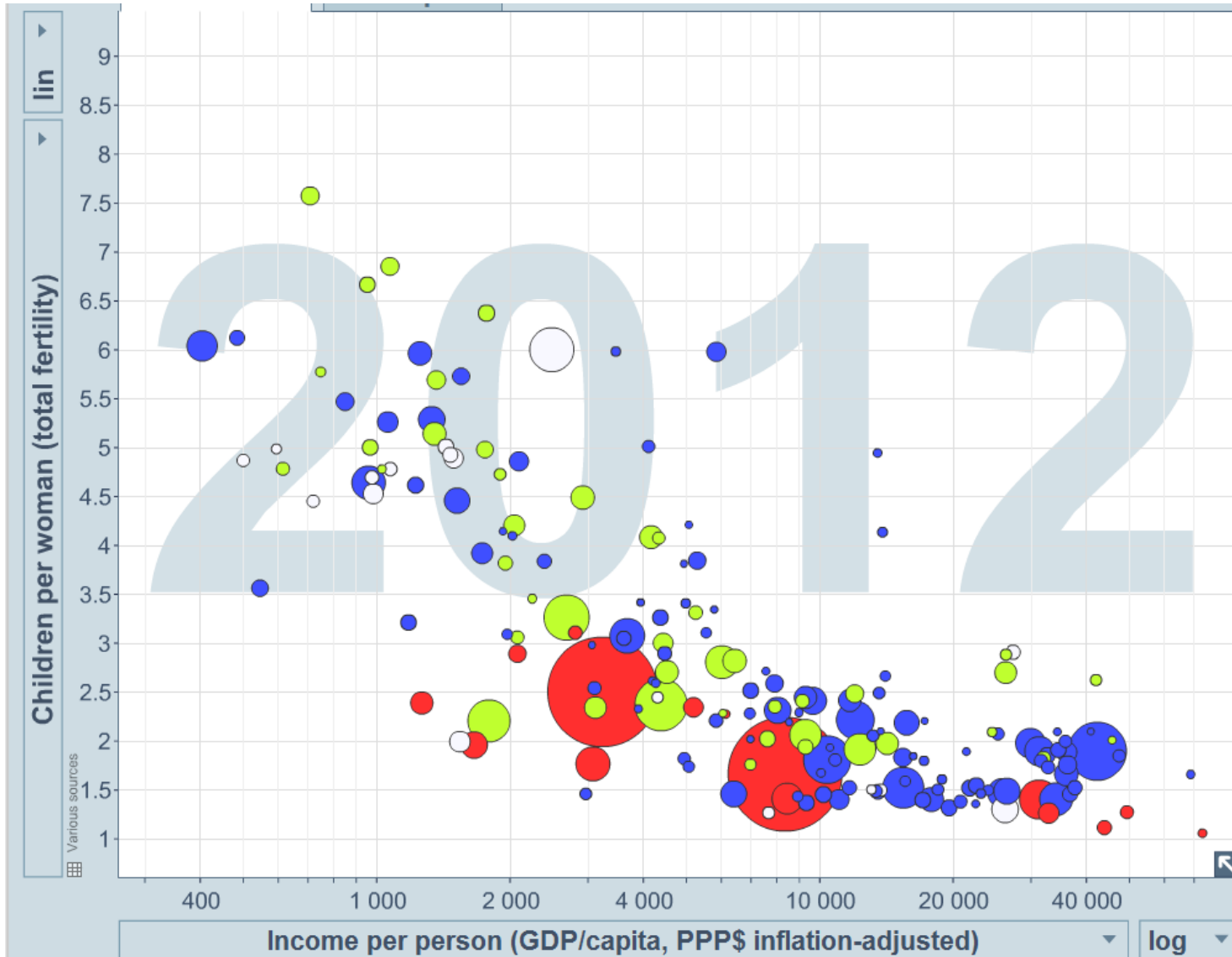
Model Difference: ChiSq = 20.8; d.f. = 1 $p < .001$



MORE OBSERVATIONS

- In post-industrial nations, attendance lower, beliefs not too much lower
 - USA – exception
 - Women usually more religious than men
- World as a whole gets more religious
 - due to demographics
 - Advanced secular countries with zero population growth
 - With better health-care, fertility declines

CHILDREN PER WOMAN VS INCOME P.C.



Source: Gapminder.org

WEST EUROPE - ATTENDANCE

Table 3.5: Decline in religious participation, EU 1970-1998

	<i>France</i>	<i>Belgium</i>	<i>Netherlands</i>	<i>Germany</i>	<i>Italy</i>	<i>Lux</i>	<i>Denmark</i>	<i>Ireland</i>	<i>Britain</i>	<i>N. Ireland</i>	<i>Greece</i>	<i>Portugal</i>	<i>Spain</i>
1970	23	52	41	29	56								
1971	27	58	49	39	58								
1973	19	38	33	22	48	48	5	91	16				
1975	22	45	44	26	39	44	6	93	8	59			
1976	23	45	45	30	37	40	6	93	17	60			
1977	22	50	48	26	37	42	5	91	17	56			
1978	18	45	45	23	36	39	5	90	10	64			
1980	14	38	31	21	37	41	5	91	9	69			
1981	13	36	29	20	35	36	7	91	7	59	27		47
1985	12	27	24	19	37	32	6	88	8	58	26		
1988	13	31	36	19	42	30	6	85	7	61	24	39	34
1989	14	29	34	18	44	28	4	83	10	60	21	40	31
1990	13	30	36	21	46	32	4	85	13	62	24	42	35
1991	10	24	35	19	46	28	4	82	13	61	24	39	33
1992	9	22	22	17	43	29	3	79	6	54	26	33	27
1993	12	27	33	15	45	27	4	81	7		25	31	33
1994	11	27	28	16	41	22	3	77	12		24	37	36
1998	5	10	14	15	39	17	4	65	4	46	21	30	20
Beta	-0.620	-1.290	-0.780	-0.589	-0.188	-1.041	-0.099	-0.855	-0.233	-0.371	-0.250	-1.095	-1.303
Sig	0.000	0.000	0.001	0.000	0.316	0.000	0.005	0.000	0.075	0.081	0.067	0.023	0.004
Obs.	18	18	18	18	18	16	16	16	16	13	10	8	9

Note:

Religious participation: Q "Do you attend religious services several times a week, once a week, a few times during the year, once a year or less, or never?" The percentage attending religious services 'several times a week' or 'once a week'.

Source: The Mannheim Eurobarometer Trend File 1970-1999

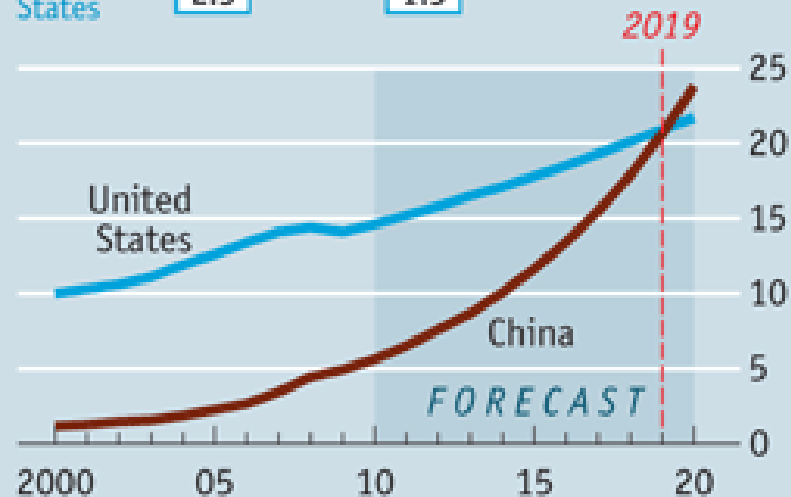
CHINA & USA- TWO BIGGEST ECONOMIES

Passing the buck

GDP*, \$trn

Based on the following long-term assumptions,
annual average, %:

	Real GDP growth	Inflation [†]	Yuan appreciation [‡]
China	7.75	4.0	3.0
United States	2.5	1.5	



*At current prices and market exchange rates [†]GDP deflator

[‡]Against the dollar

Source: *The Economist*

READING LIST

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