

Online Appendix to
“Faithful Strategies: How Religion Shapes Nonprofit
Management”

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A Explanation of Additional Tables

In this Online Appendix, we report additional results that are not included in the main paper. They support the findings reported there.

Table A.1 reports correlations, for the full set of Catholic and Protestant nonprofit hospitals in Germany, among the variables we use in the empirical analysis, . Observations for both years, 2006 and 2008, are pooled together.

Table A.2 reports results of regressions of the number of patients on religion, using different location fixed effects such as not only the "municipality" (as in the main paper) but also the "state", the "district", the postal "zone", the postal "region" or the electoral "constituency." It confirms the finding of columns one and two of Table 3 in the main paper, that the number of patients in Protestant hospitals is significantly lower on average than in Catholic hospitals.

Similarly, Table A.3 and Table A.4 show the results of regressions of casemix and CMI on religion, using different location fixed effects. They show that the findings of columns three to six of Table 3 in the main paper are also robust: even when comparing Protestant to Catholic hospitals in the same location (and with different definition of "location"), Protestant hospitals have a significantly lower casemix and a significantly higher CMI on average than Catholic hospitals.

Tables A.5 and A.6 document that the differences in casemix between Protestant and Catholic hospitals translate into a difference in revenues and in revenues-per-patient, as postulated by the theoretical model. Again the finding is robust to the use of different "location" fixed effects.

Table A.7 shows that the results of the logit regressions, with and without fixed effects, in Table 4 of the main paper are confirmed also when using a linear specification: Protestant nonprofit hospitals are more likely to be academic teaching hospitals linked to a university.

Tables A.8 and Table A.9 document that the findings of Table 6 in the main paper are robust to taking higher thresholds to define when a hospital is active, such as one diagnosis per month (in Table A.8) or one diagnosis per year (in Table A.9).

Table A.1: Correlations

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	
(1) protestant	1.000																						
(2) catholic	-1.000	1.000																					
(3) academic	0.125	-0.125	1.000																				
(4) patients	-0.100	0.100	0.430	1.000																			
(5) cmi	0.162	-0.162	0.044	0.014	1.000																		
(6) revenuesperpat	0.173	-0.173	0.037	-0.016	0.981	1.000																	
(7) casemix	-0.022	0.022	0.514	0.794	0.041	0.007	1.000																
(8) revenues	-0.019	0.019	0.516	0.790	0.041	0.016	0.997	1.000															
(9) age	-0.122	0.122	0.010	0.068	-0.094	-0.087	0.031	0.028	1.000														
(10) distance	-0.081	0.081	-0.198	-0.123	-0.061	-0.032	-0.183	-0.180	0.124	1.000													
(11) different_fields	-0.139	0.139	0.291	0.600	-0.196	-0.235	0.567	0.555	0.168	-0.038	1.000												
(12) beds	-0.037	0.037	0.512	0.806	0.015	-0.010	0.854	0.855	0.081	-0.149	0.607	1.000											
(13) doctors	-0.031	0.031	0.537	0.816	0.013	-0.011	0.835	0.834	0.063	-0.148	0.581	0.907	1.000										
(14) docperpat	0.146	-0.146	-0.019	-0.365	0.224	0.224	-0.103	-0.102	-0.083	-0.096	-0.357	-0.084	-0.034	1.000									
(15) specialists	-0.016	0.016	0.524	0.780	0.028	0.006	0.797	0.798	0.061	-0.132	0.541	0.887	0.954	-0.041	1.000								
(16) speceperpat	0.170	-0.170	-0.010	-0.337	0.238	0.238	-0.095	-0.093	-0.078	-0.081	-0.355	-0.076	-0.038	0.906	0.040	1.000							
(17) nurses	-0.049	0.049	0.501	0.775	0.038	0.025	0.802	0.798	0.069	-0.131	0.554	0.906	0.914	-0.027	0.856	-0.034	1.000						
(18) nurseperpat	0.124	-0.124	-0.133	-0.451	0.127	0.137	-0.237	-0.235	-0.072	-0.068	-0.350	-0.213	-0.208	0.815	-0.213	0.715	-0.054	1.000					
(19) cl_winner	0.099	-0.099	0.092	0.081	0.110	0.089	0.091	0.087	-0.037	-0.233	0.043	0.135	0.124	-0.002	0.141	0.005	0.104	0.010	1.000				
(20) cath_majority	-0.463	0.463	-0.123	0.105	-0.114	-0.117	0.040	0.039	0.150	0.063	0.150	0.102	0.047	-0.140	0.032	-0.149	0.068	-0.115	-0.235	1.000			
(21) prot_Augsburg	0.323	-0.323	0.144	-0.062	0.033	0.056	-0.044	-0.034	-0.041	0.072	-0.127	-0.068	0.004	0.122	0.007	0.114	-0.028	0.077	-0.057	-0.530	1.000		
(22) cath_Augsburg	-0.242	0.242	-0.076	-0.032	-0.067	-0.070	-0.041	-0.039	-0.062	0.043	0.001	-0.036	-0.060	-0.042	-0.063	-0.054	-0.057	0.010	-0.128	0.464	-0.521	1.000	

Table A.2: Testing H1: Regression of patients on religion

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	patients	patients	patients	patients	patients	patients	patients	patients	patients	patients	patients	patients	patients	patients
protestant	-6,614*** (1,209)	-3,838*** (1,263)	-2,473* (1,374)	-4,022*** (1,272)	-6,276*** (1,449)	-6,762*** (1,589)	-6,145*** (1,431)	-4,274*** (792.0)	-3,800*** (840.3)	-3,023*** (911.3)	-3,539*** (841.7)	-5,203*** (983.0)	-6,376*** (1,065)	-5,121*** (953.4)
academic	19,176*** (1,257)	20,682*** (1,260)	21,850*** (1,346)	20,850*** (1,279)	19,047*** (1,546)	19,092*** (1,792)	19,940*** (1,481)	2,305** (951.5)	2,576*** (995.5)	2,309** (1,076)	2,640*** (1,002)	2,660** (1,191)	1,486 (1,368)	2,807** (1,133)
beds								92.38*** (2.637)	92.14*** (2.733)	96.73*** (2.974)	93.47*** (2.755)	94.56*** (3.255)	99.90*** (3.709)	94.36*** (3.072)
yd2008	2,244* (1,145)	2,278** (1,120)	2,235** (1,091)	2,253** (1,118)	2,446** (998.9)	2,521*** (969.5)	2,420** (1,018)	2,639*** (747.8)	2,612*** (745.3)	2,615*** (723.9)	2,607*** (739.8)	2,657*** (677.2)	2,621*** (650.2)	2,634*** (677.7)
Constant	19,026*** (971.3)	17,568*** (978.1)	16,752*** (989.5)	17,595*** (975.3)	18,845*** (973.6)	18,966*** (1,009)	18,540*** (975.7)	-1,477* (863.0)	-1,650* (865.1)	-3,068*** (895.6)	-2,114** (868.4)	-1,845* (971.1)	-2,478** (1,045)	-1,853** (929.1)
Observations	915	915	915	915	915	915	915	915	915	915	915	915	915	915
R-squared	0.214	0.235	0.244	0.233	0.192	0.181	0.211	0.665	0.662	0.668	0.665	0.629	0.632	0.650
N° zone		10							10					
N° constituency									161					161
N° municipality						320							320	
N° district					195							195		
N° laender				16							16			
N° region			82							82				

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table A.3: Testing H2a: Regression of casemix on religion

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	casemix	casemix	casemix	casemix	casemix	casemix	casemix	casemix	casemix	casemix	casemix	casemix	casemix	casemix
protestant	-1,660*** (489.5)	-957.1* (512.5)	-1,293** (531.1)	-1,211** (514.7)	-2,293*** (564.5)	-2,364*** (587.2)	-2,284*** (554.2)	-818.0*** (291.6)	-917.2*** (305.7)	-1,478*** (321.9)	-1,005*** (301.9)	-1,725*** (350.2)	-1,863*** (392.2)	-1,749*** (339.7)
academic	9,082*** (508.3)	9,531*** (512.0)	9,798*** (530.5)	9,493*** (527.3)	8,351*** (629.8)	8,037*** (681.7)	8,708*** (603.9)	1,983*** (352.7)	1,720*** (365.9)	1,343*** (395.2)	1,676*** (366.6)	1,268*** (444.4)	1,341*** (518.7)	1,275*** (427.1)
beds							37.87*** (0.972)	38.73*** (1.003)	38.73*** (1.003)	40.38*** (1.114)	39.56*** (1.004)	40.70*** (1.239)	38.82*** (1.471)	41.01*** (1.194)
yd2008	744.4 (460.3)	719.9 (453.9)	745.6* (422.0)	726.6 (452.7)	645.2* (390.3)	665.8* (360.5)	685.4* (397.9)	775.2*** (273.7)	746.0*** (270.9)	794.4*** (256.7)	739.1*** (265.7)	774.9*** (242.2)	763.8*** (240.2)	794.6*** (244.1)
Constant	6,848*** (383.8)	6,483*** (388.3)	6,506*** (377.9)	6,579*** (389.3)	7,333*** (380.9)	7,441*** (374.8)	7,203*** (380.1)	-1,397*** (310.5)	-1,500*** (309.9)	-1,658*** (321.0)	-1,674*** (309.1)	-1,626*** (358.9)	-1,094*** (406.4)	-1,710*** (346.9)
Observations	850	850	850	850	850	850	850	839	839	839	839	839	839	839
R-squared	0.276	0.294	0.311	0.283	0.226	0.219	0.245	0.743	0.748	0.748	0.752	0.711	0.663	0.724
N° zone		10							10					
N° constituency						153								153
N° municipality					188	302							302	
N° district												188		
N° laender				16							16			
N° region			81							81				

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table A.4: Testing H3a: Regression of cmi on religion

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	cmi	cmi	cmi	cmi	cmi	cmi	cmi	cmi	cmi	cmi	cmi	cmi	cmi	cmi
protestant	0.105*** (0.0219)	0.0972*** (0.0233)	0.0781*** (0.0248)	0.0903*** (0.0232)	0.1000*** (0.0270)	0.0786*** (0.0286)	0.0925*** (0.0266)	0.105*** (0.0223)	0.0973*** (0.0236)	0.0766*** (0.0251)	0.0896*** (0.0235)	0.0984*** (0.0275)	0.0772*** (0.0292)	0.0905*** (0.0270)
academic	0.0137 (0.0228)	0.00847 (0.0233)	0.0121 (0.0247)	0.0139 (0.0238)	0.0110 (0.0301)	0.0407 (0.0332)	-0.00663 (0.0290)	0.0114 (0.0269)	0.00665 (0.0283)	-0.00636 (0.0308)	0.00985 (0.0286)	0.00817 (0.0349)	0.0252 (0.0387)	-0.00565 (0.0340)
beds								9.50e-06 (7.42e-05)	1.89e-06 (7.75e-05)	7.77e-05 (8.68e-05)	1.20e-05 (7.83e-05)	-8.16e-06 (9.72e-05)	5.73e-05 (0.000110)	-2.69e-05 (9.51e-05)
yd2008	0.128*** (0.0206)	0.128*** (0.0207)	0.122*** (0.0197)	0.127*** (0.0204)	0.122*** (0.0187)	0.124*** (0.0176)	0.122*** (0.0191)	0.131*** (0.0209)	0.129*** (0.0209)	0.126*** (0.0200)	0.130*** (0.0207)	0.126*** (0.0190)	0.127*** (0.0179)	0.125*** (0.0194)
Constant	0.798*** (0.0172)	0.803*** (0.0177)	0.811*** (0.0176)	0.804*** (0.0176)	0.804*** (0.0182)	0.802*** (0.0183)	0.812*** (0.0182)	0.796*** (0.0237)	0.803*** (0.0240)	0.796*** (0.0250)	0.802*** (0.0241)	0.807*** (0.0282)	0.791*** (0.0303)	0.819*** (0.0276)
Observations	850	850	850	850	850	850	850	839	839	839	839	839	839	839
R-squared	0.069	0.063	0.060	0.062	0.080	0.097	0.071	0.070	0.063	0.062	0.062	0.081	0.099	0.072
N° zone		10							10					
N° constituency														153
N° municipality						302							302	
N° district					188									188
N° land				16							16			
N° region			81							81				

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table A.5: Testing H2b: Regression of revenues (in millions) on religion

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
VARIABLES	revenues	revenues	revenues	revenues	revenues	revenues	revenues	revenues	revenues	revenues	revenues	revenues	revenues	revenues
protestant	-4.322*** (1.309)	-2.462* (1.375)	-3.381** (1.420)	-3.117** (1.381)	-5.915*** (1.503)	-6.073*** (1.560)	-5.960*** (1.482)	-2.063*** (0.777)	-2.350*** (0.815)	-3.875*** (0.855)	-2.559*** (0.806)	-4.391*** (0.929)	-4.721*** (1.034)	-4.516*** (0.902)
academic	24.42*** (1.360)	25.53*** (1.373)	26.20*** (1.419)	25.42*** (1.415)	22.43*** (1.677)	21.70*** (1.811)	23.31*** (1.615)	5.391*** (0.940)	4.534*** (0.976)	3.512*** (1.050)	4.394*** (0.978)	3.547*** (1.178)	3.823*** (1.368)	3.360*** (1.134)
beds							0.101*** (0.00259)	0.104*** (0.00268)	0.104*** (0.00268)	0.108*** (0.00296)	0.106*** (0.00268)	0.109*** (0.00329)	0.104*** (0.00388)	0.110*** (0.00317)
yd2008	2.448** (1.231)	2.409** (1.217)	2.468** (1.128)	2.435** (1.215)	2.213** (1.039)	2.270** (0.958)	2.317** (1.064)	2.522*** (0.729)	2.495*** (0.722)	2.588*** (0.682)	2.467*** (0.709)	2.538*** (0.642)	2.510*** (0.633)	2.588*** (0.648)
Constant	18.23*** (1.027)	17.28*** (1.042)	17.36*** (1.011)	17.52*** (1.045)	19.49*** (1.014)	19.73*** (0.996)	19.19*** (1.016)	-3.836*** (0.827)	-4.188*** (0.826)	-4.516*** (0.853)	-4.665*** (0.825)	-4.395*** (0.952)	-3.044*** (1.072)	-4.718*** (0.921)
Observations	850	850	850	850	850	850	850	839	839	839	839	839	839	839
R-squared	0.279	0.295	0.312	0.283	0.229	0.225	0.246	0.746	0.751	0.751	0.755	0.714	0.670	0.728
N° zone	10								10					
N° constituency							153							153
N° municipality						302							302	
N° district					188							188		
N° laender				16							16			
N° region			81							81				

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table A.6: Testing H3b: Regression of revenues per patient on religion

Table 5A: Testing H3b: Regression of revenues per patient on religion

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	revperpat	revperpat	revperpat	revperpat	revperpat	revperpat	revperpat	revperpat	revperpat	revperpat	revperpat	revsperpat	revperpat	revperpat
protestant	308.2*** (59.56)	288.7*** (63.32)	241.0*** (67.69)	275.1*** (63.41)	326.1*** (73.86)	271.9*** (78.86)	295.6*** (72.61)	306.9*** (60.37)	290.3*** (64.12)	238.0*** (68.59)	273.2*** (64.19)	320.5*** (75.17)	268.1*** (80.58)	289.3*** (73.80)
academic	20.21 (61.84)	0.0521 (63.26)	9.976 (67.62)	17.61 (64.96)	22.00 (82.41)	124.3 (91.55)	-28.56 (79.11)	40.30 (73.02)	22.19 (76.75)	-8.689 (84.20)	28.54 (77.96)	37.19 (95.38)	93.19 (106.6)	-8.313 (92.79)
beds							-0.117 (0.201)	-0.117 (0.201)	-0.119 (0.210)	0.0621 (0.237)	-0.0793 (0.214)	-0.155 (0.266)	0.0914 (0.302)	-0.172 (0.259)
yd2008	392.7*** (56.00)	393.9*** (56.08)	378.9*** (53.78)	393.5*** (55.77)	379.0*** (51.06)	382.8*** (48.41)	378.1*** (52.12)	398.9*** (56.67)	401.2*** (56.81)	389.4*** (54.70)	402.3*** (56.48)	387.5*** (51.99)	392.0*** (49.36)	386.7*** (53.04)
Constant	2,152*** (46.69)	2,164*** (47.97)	2,184*** (48.16)	2,163*** (47.97)	2,152*** (49.84)	2,138*** (50.33)	2,178*** (49.80)	2,177*** (64.27)	2,188*** (64.99)	2,172*** (68.38)	2,181*** (65.71)	2,189*** (77.03)	2,123*** (83.50)	2,218*** (75.36)
Observations	850	850	850	850	850	850	850	839	839	839	839	839	839	839
R-squared	0.083	0.077	0.075	0.076	0.102	0.123	0.091	0.085	0.079	0.076	0.078	0.103	0.125	0.093
N° zone		10							10					
N° constituency							153							153
N° municipality						302							302	
N° district					188							188		
N° laender				16							16			
N° region			81							81				

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table A.7: Testing H4: Regression of academic status on religion

VARIABLES	(1) academic	(2) academic	(3) academic
protestant	0.117*** (0.0289)	0.0733** (0.0338)	0.0733** (0.0299)
beds			0.00136*** (9.01e-05)
yd2008	0.00202 (0.0279)	0.00145 (0.0204)	0.00442 (0.0179)
Constant	0.241*** (0.0225)	0.257*** (0.0191)	-0.0849*** (0.0280)
Observations	1,031	1,031	1,016
R-squared	0.016	0.007	0.259
Number of municipality_code		345	345

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table A.8: Testing H6: Regression of different fields on religion (1 case per month as benchmark)

VARIABLES	(1)	(2)	(3)	(4)
	different_fields_min_12	different_fields_min_12	different_fields_min_12	different_fields_min_12
protestant	-2.713*** (0.423)	-0.940** (0.473)	-0.638 (0.439)	0.437 (0.451)
academic	3.836*** (0.445)	3.797*** (0.538)	0.531 (0.575)	0.997* (0.550)
yd2008	1.243*** (0.401)	1.387*** (0.289)	1.367*** (0.268)	1.154*** (0.278)
beds			0.0170*** (0.00155)	
patients				0.000119*** (1.17e-05)
Constant	13.39*** (0.339)	12.69*** (0.302)	9.189*** (0.422)	10.88*** (0.363)
Observations	977	977	966	877
R-squared	0.102	0.105	0.249	0.237
N° municipality		340	340	313

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table A.9: Testing H6: Regression of different fields on religion (1 case per year as benchmark)

VARIABLES)			
	(1)	(2)	(3)	(4)
	different_fields_min_1	different_fields_min_1	different_fields_min_1	different_fields_min_1
protestant	-2.616*** (0.428)	-0.861* (0.476)	-0.563 (0.449)	0.496 (0.459)
academic	3.392*** (0.449)	3.458*** (0.542)	0.440 (0.588)	0.799 (0.559)
yd2008	1.364*** (0.405)	1.521*** (0.291)	1.504*** (0.273)	1.305*** (0.283)
beds			0.0157*** (0.00159)	
patients				0.000109*** (1.19e-05)
Constant	14.26*** (0.342)	13.54*** (0.304)	10.30*** (0.432)	11.92*** (0.369)
Observations	977	977	966	877
R-squared	0.088	0.099	0.220	0.209
N° municipality		340	340	313

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1