

Online appendix for:
Generational Legacies of Authoritarianism:
Evidence from Spain

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A CIS surveys and questions

Table A1: CIS surveys and question wordings

Year	Survey	Question number and wording
1989	1788	Q38: "To which of the following organizations do you belong to?" [Benefit or religious organizations / Cultural associations / Sport or recreational associations / Unions / Political parties / Neighbors' associations / Women associations / Human Rights associations / Environmental or peace associations / Consumer groups / Professional associations / Others]
1994	2107	Q24: "To which of the following types of associations do you currently belong to? And to which have you belonged in the past? And to which have you never belonged?" [Benefit associations / Religious associations / Educational, artistic, or cultural associations / Unions / Political parties / Human Rights associations / Environmental associations / Sports associations / Youth associations / Women associations / Peace movements / Local groups]
1995	2154	Q33: "Tell me, please, if you have been affiliated to, are affiliated to, or are a member of..." [Citizen association / Political party / Union]
1996	2206	Q24: "Are you currently a member, have you at any point belonged to or have you never partaken in citizen associations? And what about a Political party? Or a Union?" [Is currently a member / Was a member before but is no longer affiliated / Has never been a member / Don't know]
1996	2218	Q56: "Are you a member of any one of the following organizations?" [Neighbors association / Youth group / Mother's association / Sports club / Union / Volunteer group / Political party / Cultural center / Religious organizations / Other (specify) / Don't know / No Organizations]
1997	2240	Q7: "Are you currently a member, or have ever been a member or have you never been a member of:" [Citizen association / Political party / Union / Religious organization] (...)

Table A1 (continued)

Year	Survey	Question number and wording
1998	2286	Q49: "Of the following associations and organizations, have you at any point belonged to or have you never participated in ..?" [Currently belongs to/Has been a member in the past but not currently/Has never been part of] [Sports groups or clubs / Local or Regional associations (Party Committees, Brotherhoods) / Educational, Artistic or Cultural associations or groups / Youth groups or associations (scouts, guides) / Charity or socially minded clubs / Environmental clubs or associations / Unions / Political parties / Human Rights organizations / Pacifist movements / Women's groups: feminists...]
1998	2312	Q57: "In what type of organization do you participate in?" [Religious / Neighbors community / Artistic / Union / Environmental / Professional / Youth / Sports / Political / None]
2000	2380	Q12: "Do you belong to any organization or association? Tell me if you are a member of:" [A Union / A Political party / A Neighbor association / An Environmental association / A Charity group / A Religious group / A Musical or Theatre group / A Sports or Hobby club / Do you take part in any association or organization that I have not mentioned?]
2000	2387	Q14: "Of the different groups or associations that I'll mention, can you tell me please if you're a member or affiliated with:" [A Neighborhood association / A Youth group / A Political party / A Union / A Religious group / A Business association / A Professional association / A Cultural or Artistic association / An Environmental group / A Sports club / A Parents association / A Consumers group / An NGO or a Charity group]
2001	2419	Q3: "I will now read through a list of organizations and associations, can you please tell me for each one of them if you are currently a member, have ever been a member even if currently you aren't a member, or have never been a member?" (...)

Table A1 (continued)

Year	Survey	Question number and wording
		[Sports clubs / Local or regional groups (Party Committees, Brotherhoods, etc) / Educational, Artistic or Cultural groups / Youth organizations (Scouts, Guides, Clubs, etc) / Charity or social benefits clubs / Environmental groups / Unions / Political parties / Human Rights organizations / Women-related groups (feminists) / Non-governmental Organizations (NGOs)]
2002	2450	Q15a: "I will now go through a list with different types of organizations and read each one out loud. For each one, can you please tell me if you're a member of have taken part in this type of organization?" [Sports or Outdoors clubs / Youth associations / Environmental / Animal Protection / Peace / HR or Cooperation / Charity / Disease groups / Disability groups / Old age / Political parties / Unions / Agrarian / Employers' / Investment / Professional associations / Consumers' groups / Parents' associations / Cultural / Driving groups / Neighbors' / Immigrants' / Religious / Women / Veterans' / Victims of terrorism / Others]
2004	2572	Q7: "Are you a member or affiliated with to (Is a member/ Has been a member in the past / Has never been a member of):" [A Citizen group (of neighbors, environmentalists, pacifists) / A Political party / A Union / A Religious group]
2004	2575	Q6: "People sometimes partake in certain groups or association. For each one of the following groups, can you please tell me if you:" [Participate actively in one or more / Are a member but does not participate actively in one or more / Has been a member in the past, but not right now / Has never been a member of these groups] [A Political party / A union, a Business association or a Professional Association / A Parrish or other type of Religious group / A Sports club, Cultural or Hobby group / Another type of voluntary association]
2005	2588	Q4a: "I will now read through a list of different types of organizations. For each one, can you please tell me if you're a member of this type of association?"
(...)		

Table A1 (continued)

Year	Survey	Question number and wording
		[Sports clubs / Non-governmental organizations (NGOs) / Political parties / Unions or Agrarian organizations / Business or Commercial associations / Consumer associations (e.g. Patient Defense Association) / Parent associations (in schools) / Neighbor associations (but not neighbor communities) / Religious or Parrish associations / Cultural or artistic associations]
2006	2632	Q12: "People sometimes partake in certain groups or association. For each one of the following groups, can you please tell me if you:" [Are a member and participate actively / Are a member but do not participate actively / Have been a member in the past, but not right now / Have never been a member of these groups]
		[A Political party / A Union or a Business association / A Professional association / A Parrish or other type of Religious group / A Sports club / A Cultural or Hobby group / A Human Rights or Social organization / A Youth or Student group / Another type of voluntary association]
2006	2633	Q15: "People sometimes partake in certain groups or association. For each one of the following groups, can you please tell me if you:" [Are a member and participate actively / Are a member but do not participate actively / Have been a member in the past, but not right now / Have never been a member of these groups]
		[A Political party / A Union or a Business association / A Professional association / A Parrish or other type of Religious group / A Sports club / A Cultural or Hobby group / A Human Rights or Social organization / A Youth or Student group / Another type of voluntary association]
2006	2634	Q105: "Have you at any point belonged to or have you never participated in activities or actively supported (e.g. by donating money) a:"
		[Political party / Union / Professional association / Non-governmental Organization / Parrish or Religious Group]
		(...)

Table A1 (continued)

Year	Survey	Question number and wording
2006	2661	Q23/Q24: "Are you currently a member, or have ever been a member or have you never been a member of any association in your city, be it a group of neighbors, a sports club, political group...of any kind?" / (Only for those that are current members or have partaken in local association: "I will now read through a list of organizations and associations, can you please tell me for each one of them if you are currently a member, have ever been a member even if currently you aren't a member, or have never been a member?") [Sports or hobby clubs / Cultural associations / Support groups for the ill or handicapped / Other volunteer associations or Charity that is active in your city / Political party / Union / Professional organizations or Commerce associations / Neighbor associations / Consumer associations / Parent associations / Retiree or Senior Citizen associations / Environmental or Animal Rights associations / Animal rescue and Support groups / Women's groups / Youth groups / Parrish or Religious groups / Other types of associations]
2006	2667	Q34: "People sometimes partake in certain groups or association. For each one of the following groups, can you please tell me if you: 1 - Are a member and participate actively 2 - Are a member but do not participate actively 3 - Have been a member in the past, but not right now 4 - Have never been a member of these groups " [A Political party / A Union or a Business association / A Professional association / A Parrish or other type of Religious group / A Sports club / A Cultural or Hobby group / A Human Rights or Social organization / A Youth or Student group / Another type of voluntary association]
2007	2672	Q16: "People sometimes partake in certain groups or association. For each one of the following groups, can you please tell me if you: 1 - Are a member and participate actively 2 - Are a member but do not participate actively 3 - Have been a member in the past, but not right now 4 - Have never been a member of these groups " [A Political party / A Union or a Business association / A Professional association / A Parrish or other type of Religious group / A Sports club / A Cultural or Hobby group / A Human Rights or Social organization / A Youth or Student group / Another type of voluntary association]
(...)		

Table A1 (continued)

Year	Survey	Question number and wording
2007	2700	Q16: “People sometimes partake in certain groups or association. For each one of the following groups, can you please tell me if you: [Are a member and participate actively / Are a member but do not participate actively / Have been a member in the past, but not right now / Have never been a member of these groups]” [A Political party / A Union or a Business association / A Professional association / A Parrish or other type of Religious group / A Sports club / A Cultural or Hobby group / A Human Rights or Social organization / A Youth or Student group / Another type of voluntary association]
2007	2701	Q38/Q38a: “Are you currently a member, or have ever been a member or have you never been a member of any association in your city, be it a group of neighbors, a sports club, political group...of any kind? / (Only for those that are current members or have partaken in local association) I will now read through a list of organizations and associations, can you please tell me for each one of them if you are currently a member, have ever been a member even if currently you aren’t a member, or have never been a member?” [Sports or hobby clubs / Cultural associations / Support groups for the ill or handicapped / Other volunteer associations or Charity that is active in your city / Political party / Union / Professional organizations or Commerce associations / Neighbor associations / Consumer associations / Parent associations / Retiree or Senior Citizen associations / Environmental or Animal Rights associations / Animal rescue and support groups / Women’s groups / Youth groups / Parrish or Religious groups / Other types of associations]
2007	2736	Q13: “Tell me if you are a member, if you actively participate or if you have been a member of any of the following associations:” [Are a member and participate actively / Are a member but do not participate actively / Have been a member in the past, but not right now / Have never been a member of these groups] (...)

Table A1 (continued)

Year	Survey	Question number and wording
		[A Political party / A Union / Business or Professional association / A Parrish or other type of Religious group / A Sports, Cultural or Hobby club / An Environmentalist, Pacifist, Human Rights or Just Commerce group (Intermon, Amnesty International, Greenpeace, SOS Racism, etc)/ A Youth or Student group / Another type of voluntary association]
2007	2741	Q65: "For each of the following groups, please tell me whether you..." [Are a member and participate actively / Are a member but do not participate actively / Have been a member in the past, but not right now / Have never been a member of these groups] [A Political party / A Union, Professional or Business association / A Religious or Church group / A Sports, Cultural or Hobby club / Another type of association]
2008	2749	Q14: "People sometimes partake in certain groups or association. For each one of the following groups, can you please tell me if you:" [Are a member and participate actively / Are a member but do not participate actively / Have been a member in the past, but not right now / Have never been a member of these groups] [A Political party / A Union or a Business association / A Professional association / A Parrish or other type of Religious group / A Sports club / A Cultural or Hobby group / A Human Rights or Social organization / A Youth or Student group / Another type of voluntary association]
2009	2790	Q39/Q39a: "Are you currently a member, or have ever been a member or have you never been a member of any association in your city, be it a group of neighbors, a sports club, political group...of any kind? / (Only for those that are current members or have partaken in local association) Of what kind?" [NGOs / Political Parties / Unions or Agrarian Organizations / Business or Commercial Associations / Consumer Associations (e.g. OCU, Patient Defense Association) / Parents Associations / Neighbor Associations (but now Neighbor Communities) / Cultural or Artistic groups / Other types of associations]
(...)		

Table A1 (continued)

Year	Survey	Question number and wording
2009	2798	Q14: "People sometimes partake in certain groups or association. For each one of the following groups, can you please tell me if you: [Are a member and participate actively / Are a member but do not participate actively / Have been a member in the past, but not right now / Have never been a member of these groups] " [A Political party / A Union or a Business association / A Professional association / A Parrish or other type of Religious group / A Sports club / A Cultural or Hobby group / A Human Rights or Social organization / A Youth or Student group / Another type of voluntary association]
2011	2914	Q15: "People sometimes partake in certain groups or association. For each one of the following groups, can you please tell me if you:[Are a member and participate actively/ Are a member but do not participate actively / Have been a member in the past, but not right now / Have never been a member of these groups]" [A Political party / A Union or a Business association / A Professional association / A Parrish or other type of Religious group / A Sports club / A Cultural or Hobby group / A Human Rights or Social organization / A Youth or Student group / Another type of voluntary association]
2012	2960	Q14: "People sometimes partake in certain groups or association. For each one of the following groups, can you please tell me if you: [Are a member and participate actively/ Are a member but do not participate actively / Have been a member in the past, but not right now / Have never been a member of these groups]" [A Political party / A Union or a Business association / A Professional association / A Parrish or other type of Religious group / A Sports club / A Cultural or Hobby group / A Human Rights or Social organization / A Youth or Student group / Another type of voluntary association]
2013	2975	Q63: "Tell me if you are a member or affiliated to any of the following groups or associations:" (...)

Table A1 (continued)

Year	Survey	Question number and wording
		[Political party / Union or Business association / Professional association / Parrish or other Religious association / Sports club / Cultural, Artistic or Hobby club / Human Rights or Social Support Club / Youth or Student association / Neighbor association (not Homeowners association) / Parent association / Another type of voluntary association]
2013	3001	Q13: "People sometimes partake in certain groups or association. For each one of the following groups, can you please tell me if you: [Are a member and participate actively / Are a member but do not participate actively / Have been a member in the past, but not right now / Have never been a member of these groups]"
		[A Political party / A Union or a Business association / A Professional association / A Parrish or other type of Religious group / A Sports club / A Cultural or Hobby group / A Human Rights or Social organization / A Youth or Student group / Another type of voluntary association]
2013	3004	Q76: "Regarding the following groups or associations, tell me if you are a: [Active member / Not-active member / Not a member]"
		[Political party / Business association / Professional association / Parrish or other Religious association / Sports club / Cultural, Artistic or Hobby club / Human Rights or Social Support club / Youth or Student association / Neighbor association (not Homeowners association) / Parent association / Environmental organization / Another type of voluntary association]
2013	3005	Q11: "Regarding a series of groups or associations, tell me if you are a member and are active in, if you are a member but are not active in, if you have been a member and active in the past 12 months but are no longer a member or if you've never been a member of...[Are a member and are active in / Are a member but are not active in / Have been a member and active in the past 12 months but are no longer a member / Have never been a member of]
		(...)

Table A1 (continued)

Year	Survey	Question number and wording
		[Political party / Union / Professional association / Business association / Charity or Social Support association / Sports club / Cultural, Artistic or Hobby club / Environmental organization (Greenpeace, etc) / Pacifist, Human Rights or Just Commerce club (Intermon, Amnesty International, SOS Racism, etc) / Youth or Student association / Another type of voluntary association (Parent association, Neighbor association (but not Homeowners association), etc.)]
2014	3020	Q8: "People sometimes partake in certain groups or association. For each one of the following groups, can you please tell me if you: [Are a member and participate actively in any (or in many) / Are a member but do not participate actively / Have been a member in the past, but not right now / Have never been a member of these groups]" [A Political party / A Union, Business association or a Professional association / A Parrish or other type of Religious group / A Sports club, Cultural or Hobby group / Another type of voluntary association]
2014	3036	Q18: "People sometimes partake in certain groups or association. For each one of the following groups, can you please tell me if you: [Are a member and participate actively / Are a member but do not participate actively / Have been a member in the past, but not right now / Have never been a member of these groups]" [A Political party / A Union or a Business association / A Professional association / A Parrish or other type of Religious group / A Sports club / A cultural or hobby group / A Human Rights or Social organization / A Youth or Student group / Another type of voluntary association (Parents association, neighbors, etc.)]
2014	3041	Q13: "People sometimes partake in certain groups or association. For each one of the following groups, can you please tell me if you: [Are a member and participate actively in any (or in many) / Are a member but do not participate actively / Have been a member in the past, but not right now / Have never been a member of these groups]" [A Political party / A Union or a Business association / A Professional association / A Parrish or other type of Religious group / A Sports club / A Cultural or Hobby group / A Human Rights or Social organization / A Youth or Student group / Another type of voluntary association]
		(...)

Table A1 (continued)

Year	Survey	Question number and wording
2015	3114	Q13: “People sometimes partake in certain groups or association. For each one of the following groups, can you please tell me if you: [Are a member and participate actively in any (or in many) / Are a member but do not participate actively / Have been a member in the past, but not right now / Have never been a member of these groups]” [A Political party / A Union or a Business association / A Professional association / A Parrish or other type of Religious group / A Sports club / A cultural or hobby group / A Human Rights or Social organization / A Youth or Student group / Another type of voluntary association]
2015	3123	Q81: “Regarding the following groups or associations, tell me if you are a member or affiliated with:” [Political party / Union or Business association / Professional association / Parrish or other Religious association / Sports club / Cultural, Artistic or Hobby club / Human Rights or Social Support club / Youth or Student association / Neighbor association (not Homeowners association) / Parent association / Another type of voluntary association]
2016	3156	Q13: “People sometimes partake in certain groups or association. For each one of the following groups, can you please tell me if you: [Are a member and participate actively in / Are a member but do not participate actively / Have been a member in the past, but not right now / Have never been a member of these groups]” [A Political party / A Union or a Business association / A Professional association / A Parrish or other type of Religious group / A Sports club / A Cultural or Hobby group / A Human Rights or Social organization / A Youth or Student group / Another type of voluntary association]
2017	3191	Q12: “People sometimes partake in certain groups or association. For each one of the following groups, can you please tell me if you: [Are a member and participate actively in / Are a member but do not participate actively / Have been a member in the past, but not right now / Have never been a member of these groups]”
(...)		

Table A1 (continued)

Year	Survey	Question number and wording
		[A Political party / A Union or a Business association / A Professional association / A Parrish or other type of Religious group / A Sports club / A cultural or hobby group / A Human Rights or Social organization / A Youth or Student group / Another type of voluntary association]
2017	3195	Q11: “Regarding a series of groups or associations, tell me if you are a member and are active in, if you are a member but are not active in, if you have been a member and active in the past 12 months but are no longer a member or if you’ve never been a member of... [Are a member and are active in / Are a member but are not active in / Have been a member and active in the past 12 months but are no longer a member / Were a member and participated a long time ago / Have never been a member of]” [Political party / Union / Professional association / Business association / Charity or Social Support association / Sports club / Cultural, Artistic or Hobby club / Environmental organization (Greenpeace, etc) / Pacifist, Human Rights or Just Commerce club (Intermon, Amnesty International, SOS Racism, etc) / Youth or Student association / Another type of voluntary association (Parent association, Neighbor association (but not Homeowners association), etc.)]
2017	3201	Q65: “Regarding the following groups or associations, tell me if you are a member or affiliated with:” [Political party / Union or Business association / Professional association / Parrish or other Religious association / Sports club / Cultural, Artistic or Hobby club / Human Rights or Social Support club / Youth or Student association / Neighbor association (not Homeowners association) / Parent association / Another type of voluntary association]

B Full results of survey analyses

Table A2 shows the full results of the cohort analyses. Figure A1 shows coefficient estimates and confidence intervals for the models analyzing cohort effects over time in the main text. We show coefficient plots instead of tables because of the large number of coefficients in these models.

Tables A3 and A4 present the full results for the models where we include age in quadratic form as our primary independent variable, and run a different model for each five-year period—including all responses from surveys fielded during these years (corresponding to the figure showing “Age effects across survey years” in the main text).

Finally, Figure A2 is a version of Figure 1 in the main text where we calculate the likelihood of participation of associations, but using birth years instead of birth decades.

Table A2: Cohort effects on participation in associations

	All associations	Political associations
	(1)	(2)
1920 cohort	0.183* (0.092)	0.498* (0.206)
1930 cohort	0.383*** (0.090)	1.069*** (0.200)
1940 cohort	0.596*** (0.094)	1.797*** (0.203)
1950 cohort	0.640*** (0.101)	2.435*** (0.210)
1960 cohort	0.654*** (0.110)	2.707*** (0.222)
1970 cohort	0.643*** (0.125)	2.873*** (0.239)
1980 cohort	0.571*** (0.142)	2.962*** (0.262)
1990 cohort	0.662*** (0.165)	2.681*** (0.299)
<i>n</i>	97322	97112
AIC	121319.1	66691.5
Survey FE	Yes	Yes

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Control variables not shown: gender, ideology, age (log), rural, voted in last election and education level.

Table A3: Age effects in participation in associations by survey year

	1989–1994	1995–1999	2000–2004	2005–2009	2010–2014	2015–2017
	(1)	(2)	(3)	(4)	(5)	(6)
Age	0.047*** (0.013)	0.035*** (0.006)	0.050*** (0.007)	0.057*** (0.004)	0.033*** (0.005)	0.040*** (0.006)
Age ²	-0.001*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.001*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)
<i>n</i>	3976	17707	10934	28519	20492	15694
AIC	5014.7	20200.5	13967.5	35564.0	26161.3	20068.1
Survey FE	Yes	Yes	Yes	Yes	Yes	Yes

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Control variables not shown: gender, ideology, age (log), rural, voted in last election and education level.

Table A4: Age effects in participation in political associations by survey year

	1989–1994	1995–1999	2000–2004	2005–2009	2010–2014	2015–2017
	(1)	(2)	(3)	(4)	(5)	(6)
Age	0.138*** (0.024)	0.170*** (0.012)	0.141*** (0.012)	0.164*** (0.007)	0.144*** (0.009)	0.184*** (0.012)
Age ²	-0.002*** (0.000)	-0.002*** (0.000)	-0.001*** (0.000)	-0.002*** (0.000)	-0.001*** (0.000)	-0.002*** (0.000)
<i>n</i>	3938	17687	10928	28377	20490	15692
AIC	2592.1	9062.4	7290.0	21129.7	15561.1	10659.5
Survey FE	Yes	Yes	Yes	Yes	Yes	Yes

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Control variables not shown: gender, ideology, age (log), rural, voted in last election and education level.

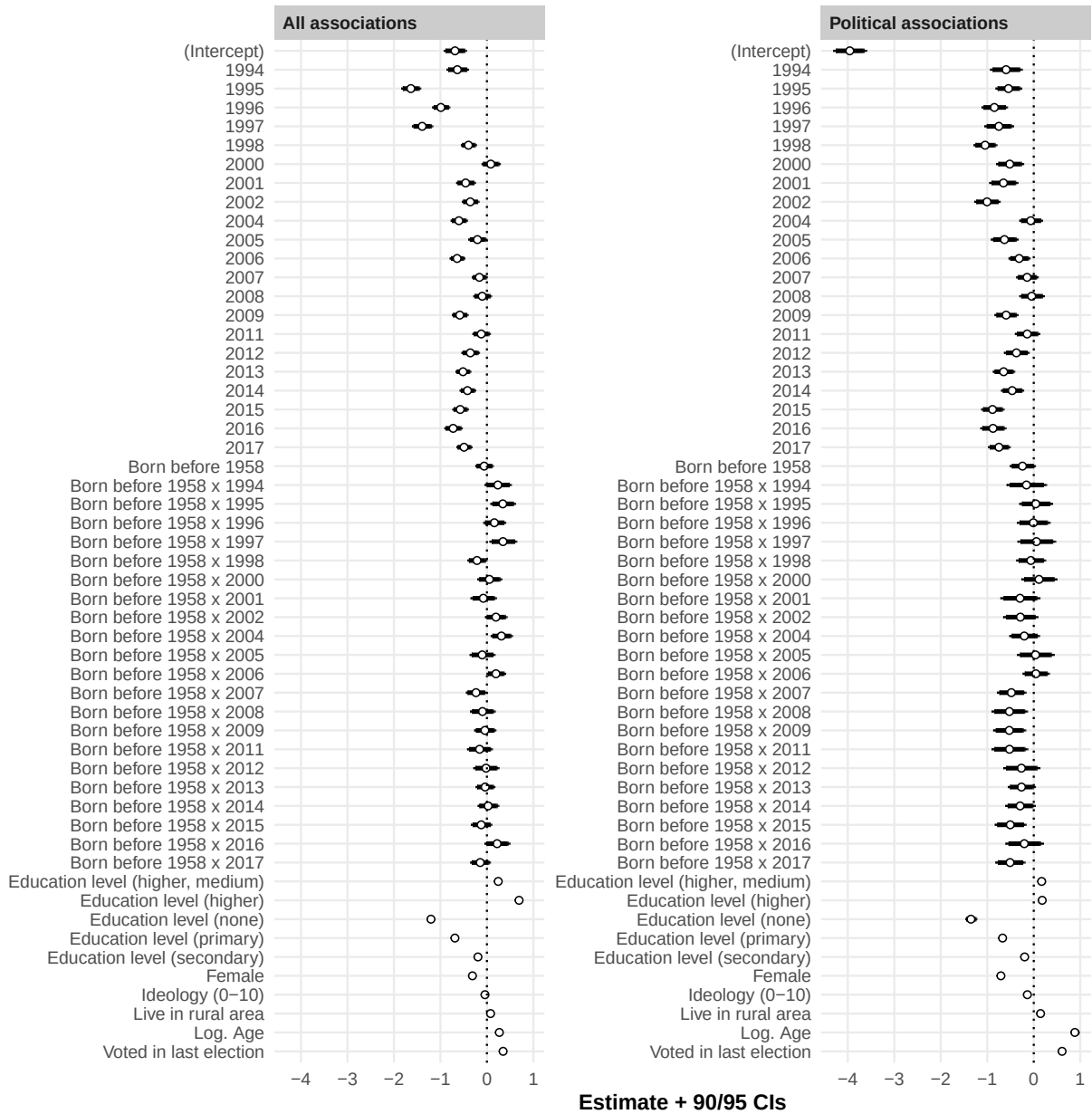


Figure A1: Coefficient plot for cohort-effect (born before 1958) models

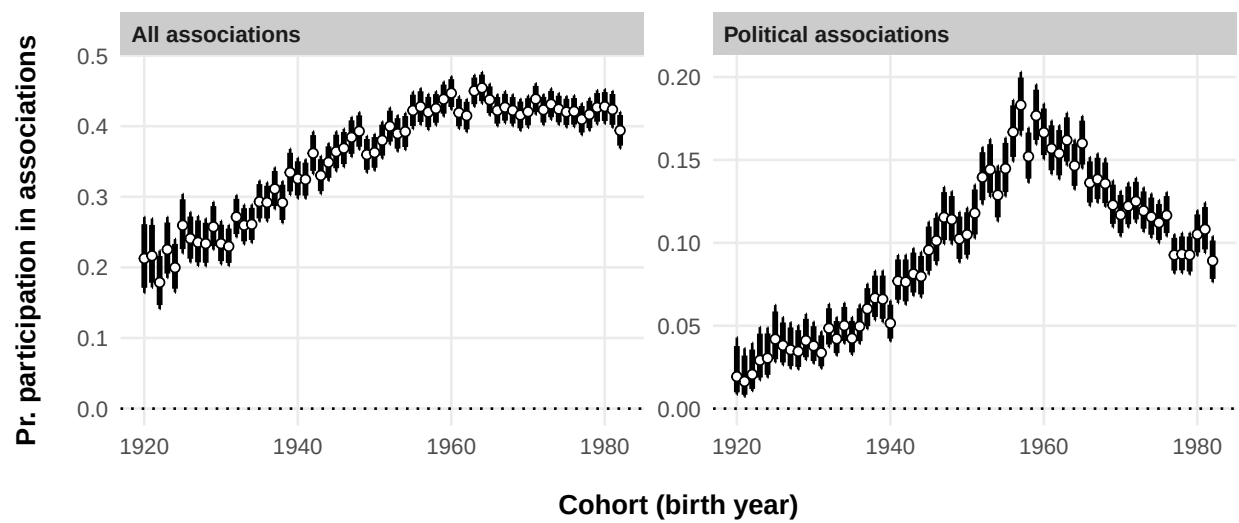


Figure A2: Cohort effects on participation in associations

C Changing binary cohort year

Figure A3 repeats the cohort-over-time analyses shown in the main text but moving the cutoff to 1965, while Figure A4 shows the coefficients graphically.

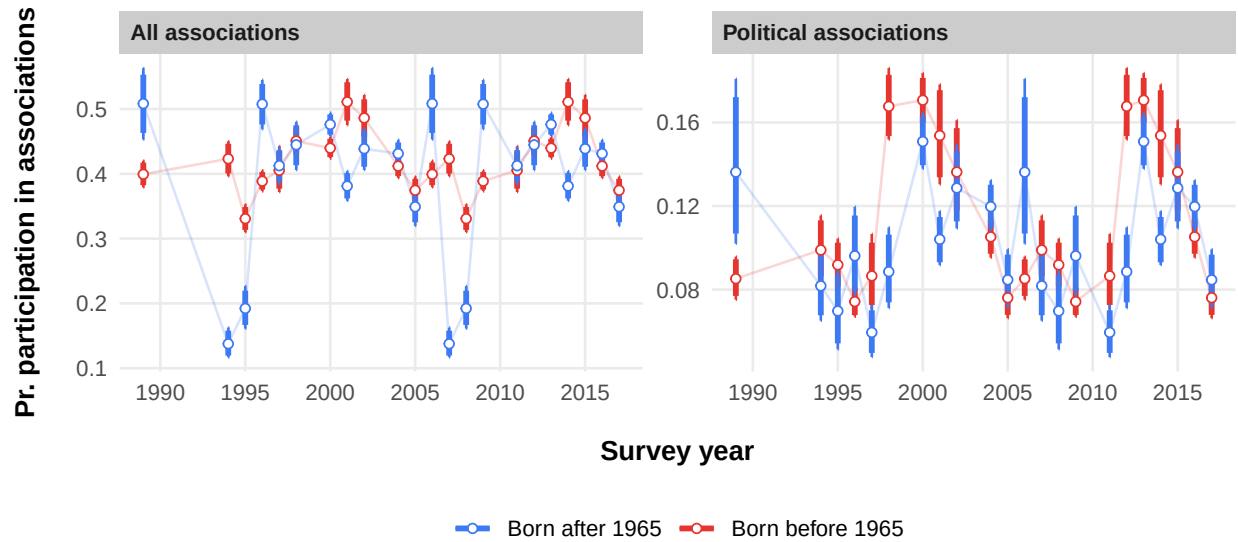


Figure A3: Cohort effect (born before 1965) over time

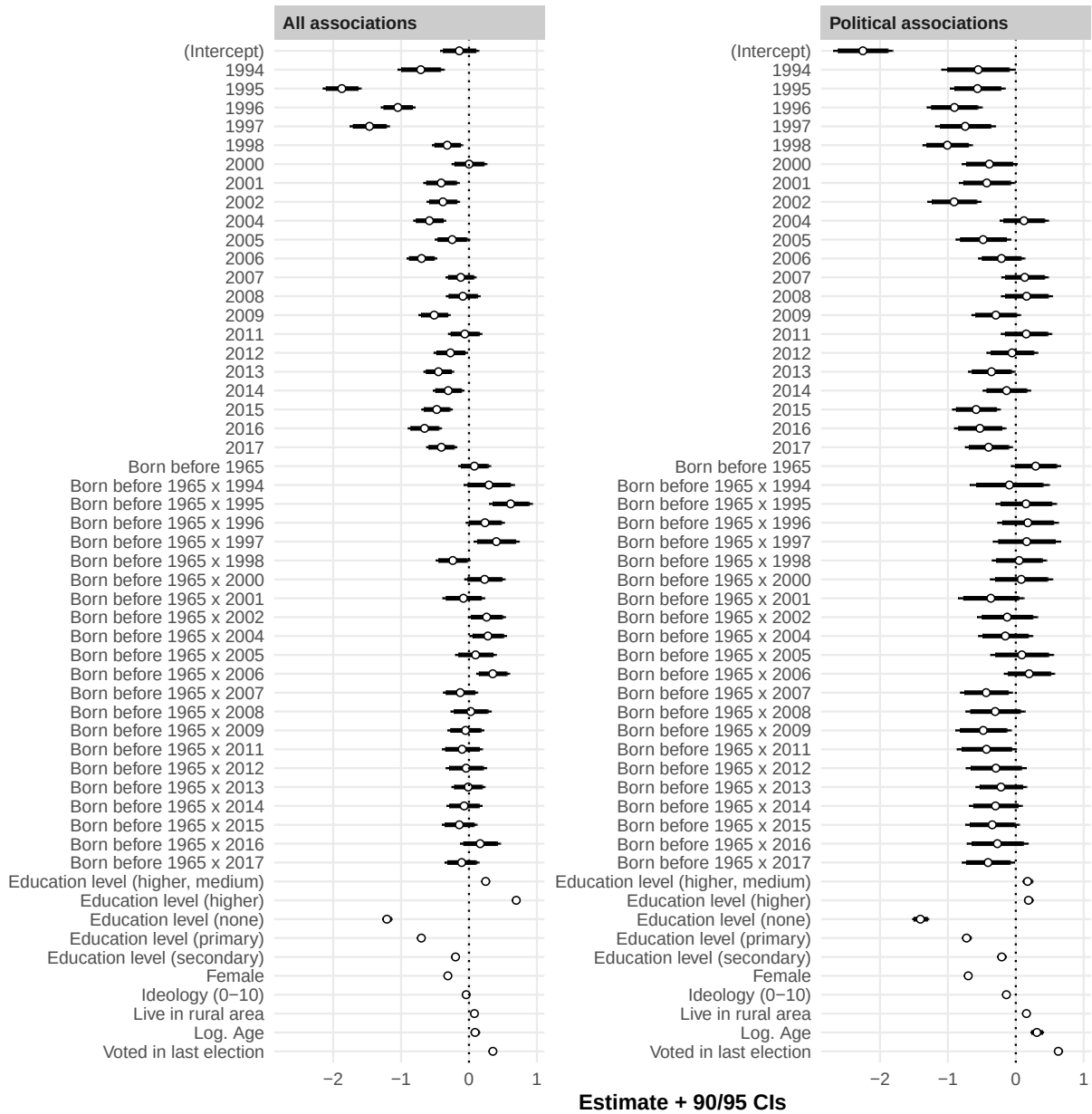


Figure A4: Coefficient plot for cohort-effect (born before 1965) models

D Results by gender

Figure A5 shows the results of the main cohort models for different samples on women and men. Table A5 and Table Table A6 show the full results for the models on women and men, respectively.

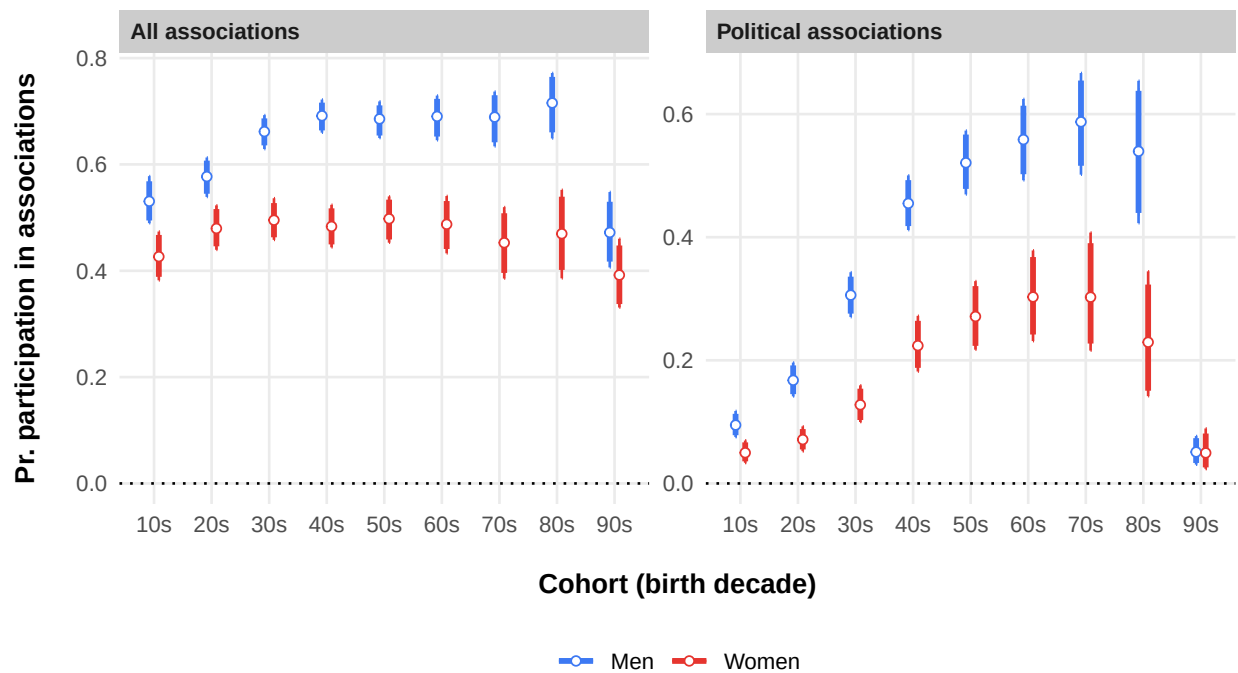


Figure A5: Cohort effects on participation in associations, by gender

Table A5: Cohort effects on participation in associations, women

	All associations	Political associations
	(1)	(2)
1920 cohort	0.140 (0.127)	0.070 (0.356)
1930 cohort	0.356** (0.126)	0.447 (0.341)
1940 cohort	0.419** (0.132)	1.098** (0.344)
1950 cohort	0.370** (0.142)	1.780*** (0.355)
1960 cohort	0.430** (0.157)	2.036*** (0.373)
1970 cohort	0.386* (0.178)	2.190*** (0.401)
1980 cohort	0.245 (0.205)	2.187*** (0.438)
1990 cohort	0.315 (0.238)	1.789*** (0.496)
<i>n</i>	47614	47517
AIC	57777.7	25617.3
Survey FE	Yes	Yes

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Control variables not shown: gender, ideology, age (log), rural, voted in last election and education level.

Table A6: Cohort effects on participation in associations, men

	All associations	Political associations
	(1)	(2)
1920 cohort	0.240+ (0.132)	0.695** (0.253)
1930 cohort	0.430*** (0.129)	1.354*** (0.247)
1940 cohort	0.791*** (0.134)	2.137*** (0.252)
1950 cohort	0.925*** (0.143)	2.777*** (0.261)
1960 cohort	0.899*** (0.156)	3.042*** (0.276)
1970 cohort	0.921*** (0.175)	3.192*** (0.298)
1980 cohort	0.915*** (0.199)	3.313*** (0.327)
1990 cohort	1.047*** (0.229)	3.121*** (0.375)
<i>n</i>	49707	49594
AIC	63395.8	40749.8
Survey FE	Yes	Yes

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Control variables not shown: gender, ideology, age (log), rural, voted in last election and education level.

E Exploring cohort-age effects

Figure A6 shows the average participation rate by cohort and age in all (left panel) and political associations (right panel). We follow suggestions by Rohrer (2025) to explore cohort, age, and period effects. Cohorts in dark colors correspond to Franco cohorts, while warm colors correspond to post-Franco cohorts.



Figure A6: Cohort-age trajectories in participation in associations

F Comparing Spain to other European countries

We include in this section complementary analyses using data from the European Social Survey. In particular, we use data from all available rounds of ESS, including all countries with a sufficient number of observations (at least 20,000): Czech Republic, Germany, Spain, Finland, France, United Kingdom, Ireland, and the Netherlands. As our measure of participation in political associations, we use a question on whether the respondent is or has been a member of a trade union (unfortunately, there are no measures of participation in general associations present across all ESS waves). We then calculate rates of participation by cohort based on a logit model which also includes as control variables measures of gender, ideology, age, and education level. We calculate these rates separately for each survey wave.

We show two results analyzing cohort effects. First, Figure [A7](#) shows rates of participation across time for three cohorts, 1) those born in the 1930s and 1940s, 2) those born in the 1950s and 1960s, and 3) those born in the 1970s and 1980s. While in all countries younger cohorts are consistently less likely to participate in trade unions than older cohorts (likely due to secular trends in labor market changes), Spain is the only country where the youngest cohort, as they get older, becomes more likely to participate in trade unions than the oldest cohort.

Second, Figure [A8](#) shows a binary test of the cohort effects, showing the effect of being born before 1958 on participation, in order to test whether the cutoff we identify for Spain is unique to that country and its history of authoritarian politics. In this case, Spain, together with Finland (for reasons we could not identify), is the only country where being born before 1958 is consistently correlated with lower levels of participation in trade unions.

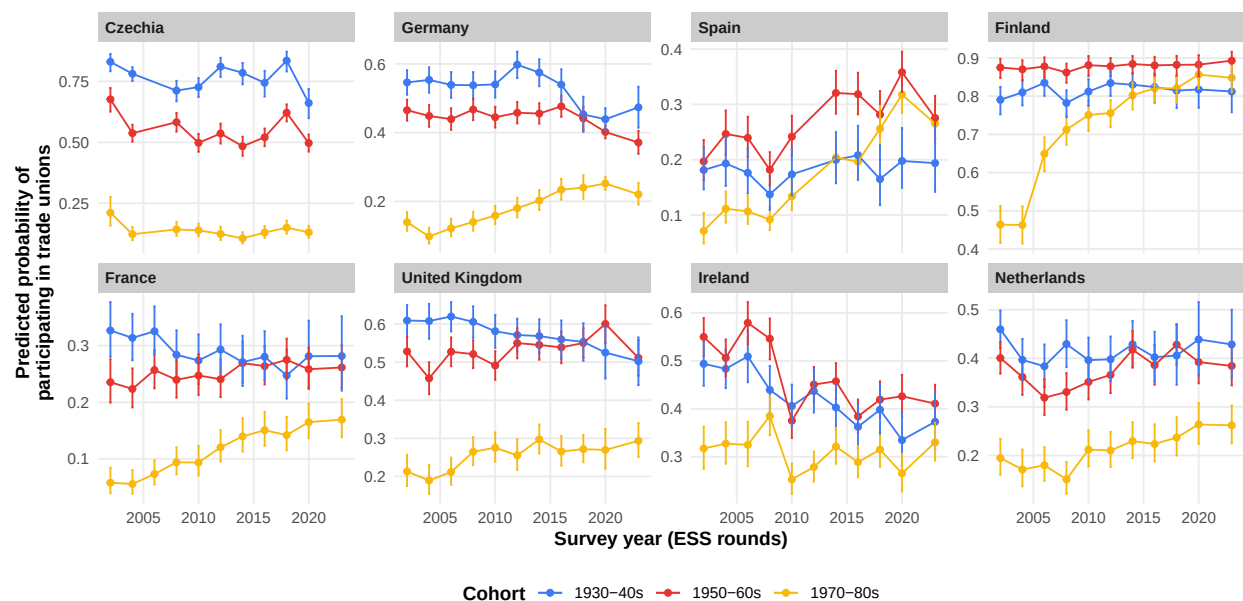


Figure A7: Rates of participation in political associations (trade unions) by cohort across time

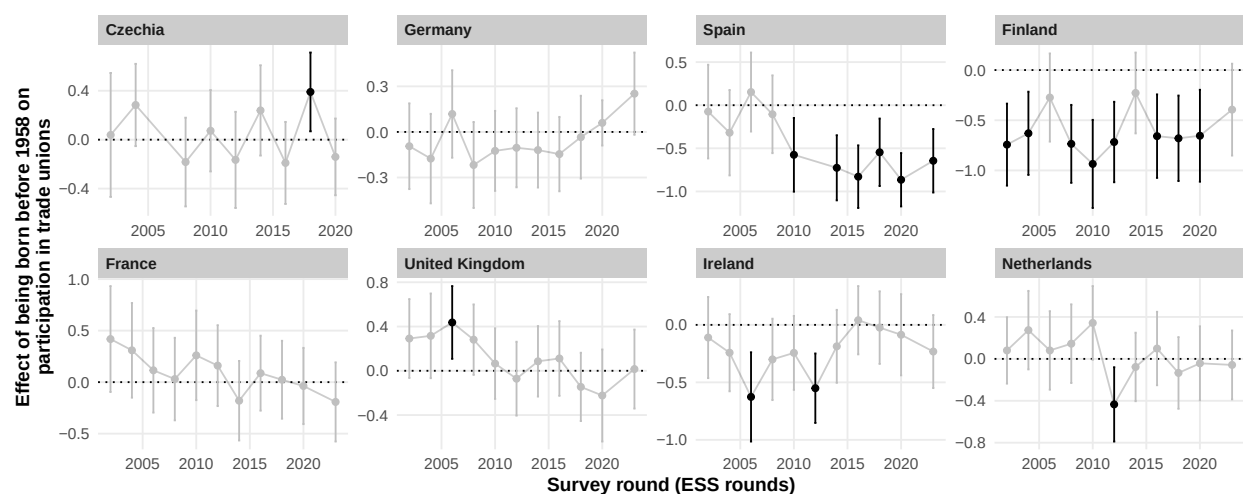


Figure A8: Effect of being born before 1958 in participation in political associations (trade unions) across time

G Local-level analyses on repression

G.1 Data and models

We analyze the correlation between local-level Francoist repression and formation of voluntary associations during the later democratic period. Our dependent variables are sourced from various regional registries (*Registro de Asociaciones*) containing information on the registration details of voluntary associations, such as location and date. The data, retrieved from the national open data portal in Spain, cover more than 250,000 voluntary associations formed between the 1880s and 2020 in seven regions, although coverage only stands to all regions from the 1960s on. We code the number of associations registered in each municipality divided by 1,000 inhabitants, in each 5-year period interval between 1976 and 2011, in order to track heterogeneous effects across time.¹ Table A7 lists the data sources, and Figure A9 depicts the yearly count of voluntary organizations formed since 1966.

Table A7: Voluntary associations regional sources

Region	Name	URL
Andalusia	Asociaciones de Andalucía	a01002820
Asturias	Registro de asociaciones del Principado de Asturias	a03002951
Basque Country	Registro de Asociaciones de Euskadi	a16003011
Castile and León	Registro de asociaciones de Castilla y León	a07002862
Castile-La Mancha	Registro de Asociaciones de Castilla-La Mancha	a08002880
Catalonia	Entidades jurídicas del Registro de entidades de Cataluña	a09002970
Galicia	Registro de asociaciones	a12002994

Our main explanatory variable is a local-level measure of repression during the Francoist regime. We create it from archival data compiled by [Del Aguila \(2001\)](#) on all the sentences by the TOP, the special court set up by the regime in the early 1960s to prosecute political offenses. The TOP data includes information on the individuals who went to trial because of alleged political crimes. Offenses range from handing out flyers to committing acts of political violence, although most are linked to non-violent political

¹ We use the population data from the closest census in time. In the full tables we also show a model on a dependent variable covering the whole 1976–2020 period.

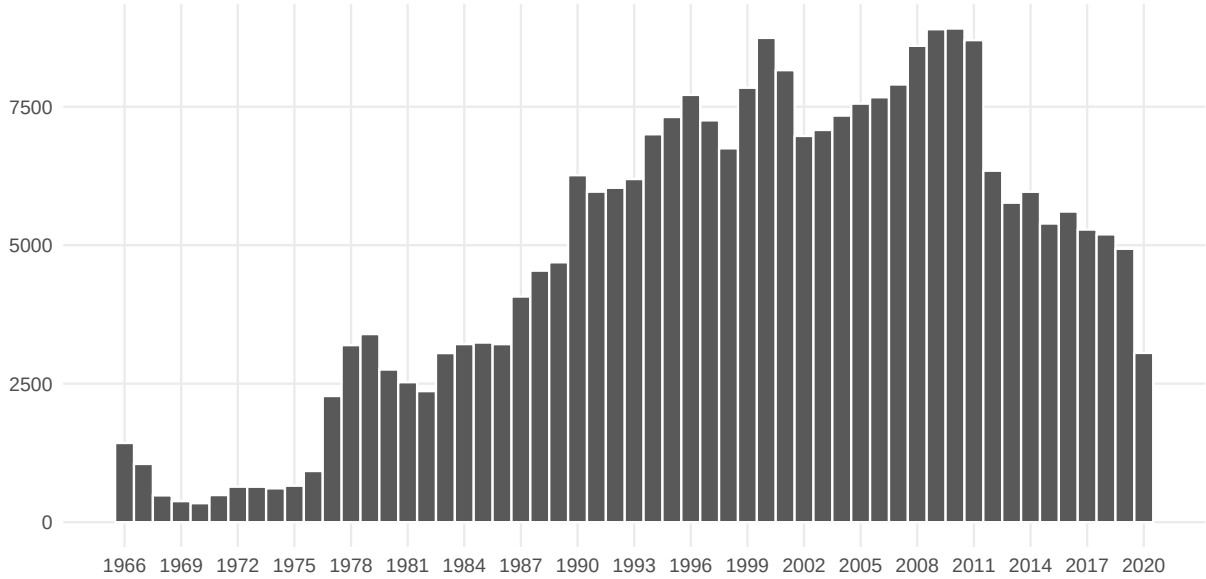


Figure A9: Voluntary associations created by year

activities: “illegal association” (39% as primary offense), “illegal propaganda” (18%), or “non-peaceful demonstrations or meetings” (16%). Using the place of residence of each individual as the sentence-municipality link, we create both a binary variable indicating whether in a given municipality a resident was condemned by the TOP and a continuous one indicating the logged number of individuals sentenced by the TOP in each municipality divided by 1,000 inhabitants in 1960. Figure A10 shows the geographical distribution of repression.

We use linear regression models which include a battery of control variables. In particular, we control for the logged 1960 population and population change between 1960 and 2011 using census data (INE, 2018), GDP per capita calculated from nightlight emission data (from replication data in Drelichman et al., 2021), and terrain ruggedness calculated from digital elevation models (Mapzen, 2018). All models include province fixed effects to account for potential unobserved confounders at this level.

G.2 Results

We show the main results in Figure A11 (full tables below). The left panel shows the results using the binary version of the main independent variable, while the right panel

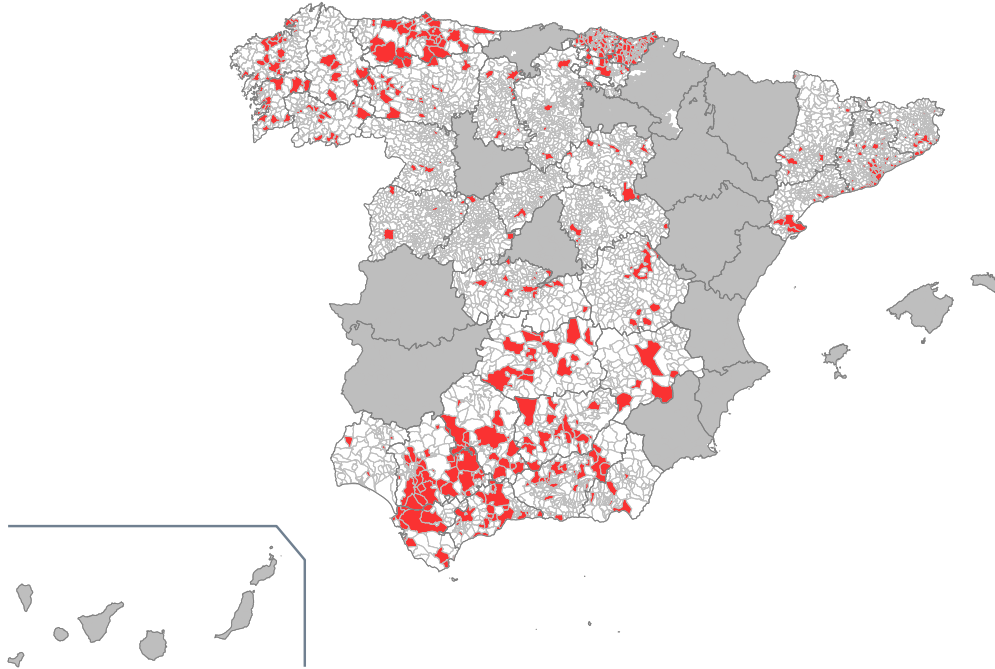


Figure A10: Local-level Francoist repression

shows the results using the continuous version (logged sentences by population). Looking at the binary version of the repression variable, we observe a significant effect of Francoist repression on the number of local associations formed during the democratic period. While the overall effect is positive and significant (Table A8 in Appendix), it changes over time. In particular, it becomes significant in the mid-1990s and remains so until around 2010. The results, however, are not robust to the use of an alternative specification of the repression variable, namely, a continuous measure weighted by population (they are not statistically significant). The sign of the coefficients does follow the same patterns, also reaching its higher level in the late 1990s.

While they have to be interpreted cautiously, the results do suggest that areas that had suffered more repression did display more organizational activity later on, although not uniformly across time. Interestingly, the period when repression was spatially associated with the formation of voluntary associations coincides with a phase where there was increased discussion about the memories of the civil war and authoritarian period. The revival of these issues was largely driven by second-generation individuals, the so-called ‘grandchildren of the war’, who also started to push for transitional justice policies

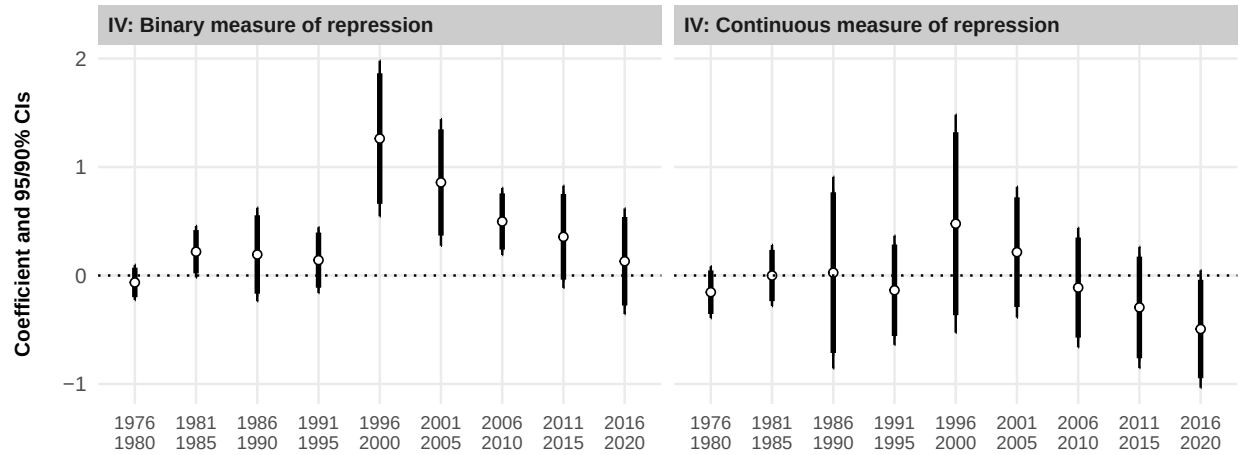


Figure A11: Francoist repression and local associations formed after 1975

(Davis, 2005; Aguilar and Payne, 2016). This was a period characterized by a political opportunity structure conducive to civic participation, particularly if influenced by legacies of past repression.

G.3 Full tables

Table A8 shows the full results for the local-level analyses using the binary indicator of Francoist repression as independent variable, while Table A9 shows the results using the continuous measure of repression (logged sentences by 1,000 inhabitants in 1960).

Table A8: Francoist repression (TOP, binary version) and local associations formed after 1975

	Full	1976-80	1981-85	1986-90	1991-95	1996-00	2001-05	2006-10	2011-15	2016-20
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Repression (binary)	4.512*** (1.261)	-0.064 (0.083)	0.219+ (0.121)	0.194 (0.220)	0.142 (0.155)	1.262*** (0.366)	0.858** (0.298)	0.498** (0.158)	0.356 (0.240)	0.131 (0.248)
Log GDPpc	26.116* (12.764)	-1.644+ (0.865)	-0.577 (0.805)	-0.659 (1.482)	1.468 (1.005)	4.449* (1.985)	3.860 (2.575)	2.183 (1.549)	1.408 (1.113)	1.888 (1.291)
Log Pop 1960	-5.852*** (0.805)	-0.132+ (0.077)	-0.288** (0.090)	-0.451** (0.161)	-0.574*** (0.114)	-1.426*** (0.311)	-1.211*** (0.252)	-0.745*** (0.094)	-0.593*** (0.155)	-0.421** (0.129)
Pop change 1960-2011	-2.028*** (0.529)	0.133+ (0.076)	0.118+ (0.070)	-0.120*** (0.035)	-0.063* (0.030)	-0.255*** (0.072)	-0.206** (0.071)	-0.228*** (0.061)	-0.136*** (0.032)	-0.154*** (0.042)
Elev SD	0.020** (0.007)	0.001 (0.000)	0.000 (0.001)	0.001 (0.001)	0.004*** (0.001)	0.002 (0.001)	0.005* (0.002)	0.005** (0.002)	0.003** (0.001)	0.004*** (0.001)
<i>n</i>	5210	5210	5210	5209	5209	5210	5210	5210	5210	5210
<i>R</i> ²	0.40	0.07	0.06	0.09	0.11	0.21	0.20	0.08	0.08	0.09
Adj. <i>R</i> ²	0.39	0.06	0.05	0.09	0.10	0.21	0.20	0.08	0.07	0.08
Province FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Province FE not shown, clustered SE (province). Outcome variable is the number of associations formed in each period, divided by population (closest census) and multiplied by 1,000.

Table A9: Francoist repression (TOP, continuous form) and local associations formed after 1975

	Full	1976-80	1981-85	1986-90	1991-95	1996-00	2001-05	2006-10	2011-15	2016-20
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Repression (continuous)	0.668 (2.016)	-0.154 (0.122)	-0.000 (0.144)	0.026 (0.450)	-0.136 (0.256)	0.477 (0.513)	0.215 (0.307)	-0.112 (0.281)	-0.294 (0.285)	-0.493+ (0.276)
Log GDPpc	27.652* (13.086)	-1.631+ (0.865)	-0.494 (0.810)	-0.593 (1.516)	1.553 (1.009)	4.809* (2.052)	4.130 (2.657)	2.398 (1.578)	1.613 (1.158)	2.056 (1.326)
Log Pop 1960	-5.298*** (0.727)	-0.134+ (0.076)	-0.260** (0.083)	-0.427** (0.149)	-0.550*** (0.105)	-1.283*** (0.281)	-1.110*** (0.228)	-0.676*** (0.084)	-0.535*** (0.133)	-0.383*** (0.111)
Pop change 1960-2011	-2.009*** (0.532)	0.133+ (0.076)	0.119+ (0.070)	-0.119*** (0.036)	-0.062* (0.030)	-0.250*** (0.072)	-0.202** (0.071)	-0.226*** (0.061)	-0.134*** (0.032)	-0.152*** (0.042)
Elev SD	0.020** (0.007)	0.001 (0.000)	0.000 (0.001)	0.001 (0.001)	0.004*** (0.001)	0.002 (0.001)	0.005* (0.002)	0.005** (0.002)	0.004*** (0.001)	0.004*** (0.001)
<i>n</i>	5210	5210	5210	5209	5209	5210	5210	5210	5210	5210
<i>R</i> ²	0.39	0.07	0.06	0.09	0.11	0.21	0.20	0.08	0.08	0.09
Adj. <i>R</i> ²	0.39	0.06	0.05	0.09	0.10	0.21	0.20	0.08	0.07	0.08
Province FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Province FE not shown, clustered SE (province). Outcome variable is the number of associations formed in each period, divided by population (closest census) and multiplied by 1,000.

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