

Populism and Academic Freedom

(Electronic Supplementary Material)

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Contents

A	Definitions and Summary Statistics	1
A.1	Definitions	1
A.1.1	Outcome Variables	1
A.1.2	Variables of interest	2
A.1.3	Control variables	3
A.1.4	Used in the identification strategy	4
A.2	Populist Parties and Governments	4
A.3	Descriptive Statistics	10
B	Identification Strategy	11
C	Robustness Checks, Estimation Results, and Power	22
C.1	First differences and additional lags	22
C.2	Expert (dis)agreement	22
C.3	Estimation Results	24
C.4	Power	27

A Definitions and Summary Statistics

A.1 Definitions

A.1.1 Outcome Variables

Academic Freedom Index: Variable identified with the code v2xca_academ at V-Dem. It reflects the answers to the question “To what extent is academic freedom respected?”. Originally, the variable was coded from low (0) to high (1). We standardized the variable into a z-score. [Source: V-Dem]

Freedom of Academic Exchange and Dissemination: Variable identified with the code v2cafexch at V-Dem. It reflects the answers to the question “To what extent are scholars free to exchange and communicate research ideas and findings?”. Originally, the variable was coded as ordinal and was then converted to an interval by the IRT measurement model. We standardized the variable into a z-score. [Source: V-Dem]

Freedom to Research and Teach: Variable identified with the code v2cafres at V-Dem. It reflects the answers to the question “To what extent are scholars free to develop and pursue their own research and teaching agendas without interference?”. Originally, the variable was coded as ordinal and was then converted to an interval by the IRT measurement model. We standardized the variable into a z-score. [Source: V-Dem]

Institutional Autonomy: Variable identified with the code v2cainsaut at V-Dem. It reflects the answers to the question “To what extent do universities exercise institutional autonomy in practice?”. Originally, the variable was coded as ordinal and was then converted to an interval by the IRT measurement model. We standardized the variable into a z-score. [Source: V-Dem]

Campus Integrity: Variable identified with the code v2casurv at V-Dem. It reflects the answers to the question “To what extent are campuses free from politically motivated surveillance or security infringements?”. Originally, the variable was coded as ordinal

and was then converted to an interval by the IRT measurement model. We standardized the variable into a z-score. [Source: V-Dem]

Freedom of Academic and Cultural Expression: Variable identified with the code v2clacfree at V-Dem. It reflects the answers to the question “Is there academic freedom and freedom of cultural expression related to political issues?”. Originally, the variable was coded as ordinal and was then converted to an interval by the IRT measurement model. We standardized the variable into a z-score. [Source: V-Dem]

Freedom of Expression Index: Variable identified with the code v2x_freexp at V-Dem. It reflects the answers to the question “To what extent does government respect press and media freedom, the freedom of ordinary people to discuss political matters at home and in the public sphere, as well as the freedom of academic and cultural expression?”. Originally, the variable was coded from low (0) to high (1). We standardized the variable into a z-score. [Source: V-Dem]

Alternative Sources of Information Index: Variable identified with the code v2xme_altinf at V-Dem. It reflects the answers to the question “To what extent is the media (a) unbiased in their coverage or lack of coverage of the opposition, (b) allowed to be critical of the regime, and (c) representative of a wide array of political perspectives?”. Originally, the variable was coded from low (0) to high (1). We standardized the variable into a z-score. [Source: V-Dem]

A.1.2 Variables of interest

populist: (= 1) if the government is led by a populist party. [Source: ParlGov + PopuList + Nordsieck (2025)]

radical-right populist: (= 1) if the government is led by a radical-right populist party. [Source: ParlGov + PopuList + Nordsieck (2025)]

right-wing populist: (= 1) if the government is led by a right-wing populist party. [Source: ParlGov + PopuList + Nordsieck (2025)]

valence populist: (= 1) if the government is led by a valence populist party. [Source: ParlGov + PopuList + Nordsieck (2025) + Zulianello (2026)]

radical-left populist: (= 1) if the government is led by a radical-left populist party. [Source: ParlGov + PopuList + Nordsieck (2025)]

left-wing populist: (= 1) if the government is led by a left-wing populist party. [Source: ParlGov + PopuList + Nordsieck (2025)]

pop_cab: (= 1) if the governing coalition includes a populist party as a junior partner. [Source: ParlGov + PopuList + Nordsieck (2025)]

pop_seat: share of the seats in the national parliament held by populist parties. [Source: ParlGov + PopuList + Nordsieck (2025)]

A.1.3 Control variables

ENP: Effective number of parties, based on Laakso and Taagepera (1979), given as $1/(\sum \text{seats}^2)$ using the share of seats in the national parliament rather than voting shares in the most recent election. [Source: ParlGov + Nordsieck (2025)]

AIP: Average ideological positioning of the governing coalition. It results from an arithmetic average of the positioning on the left-to-right scale of each party in the cabinet. [Source: ParlGov + Nordsieck (2025)]

majority: (= 1) if the governing coalition holds a majority in the parliament. [Source: ParlGov + Nordsieck (2025)]

EU: (= 1) if the country is part of the European Union in year t . [Source: N/A]

lngdp: Logarithm of the real GDP per capita (PPP 2021 international dollar). [Source: IMF]

lnpopl: Logarithm of the population size. [Source: IMF]

A.1.4 Used in the identification strategy

av_temp: average temperature (in Celsius) in the most recent election, calculated as described in the paper, with several variations across different robustness checks. [Source: Open-Meteo using ERA5 data (open-meteo.com)]

A.2 Populist Parties and Governments

We classify parties as populist using the PopuList Project (Rooduijn et al. 2024), which also places those parties on either the radical right or left. We use the information in the PopulisTree Zulianello (2026) to identify which parties can be defined as valence, and use the left-to-right placement provided by ParlGov to classify the remaining parties as either left- or right-wing. Compared to the list in the PopuList project, we add the PPNA in Lithuania and the Hlas in Slovakia, both having been recently founded.

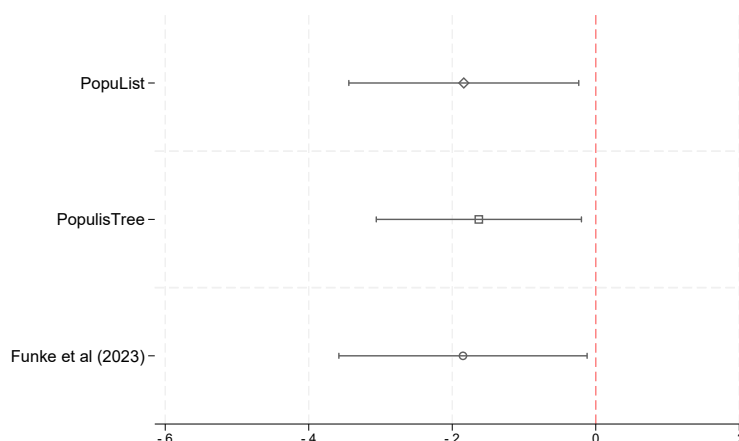


Figure A1: IV estimates (baseline - changes in academic freedom during populist governments) using the party classification provided by the PopuList, PopulisTree, and Funke, Schularick, and Trebesch (2023)

We do note, however, that there are some differences in the databases provided by the PopuList, PopulistTree, and Funke, Schularick, and Trebesch (2023). In particular, the latter two lists includes fewer parties, reducing the number of populist governments

in our data. I provide a comparison of the IV estimates using these different databases in Figure A1. Despite the differences in the party coding, the effects are very consistent, showing that the baseline result is primarily driven by the effects of parties whose populist classification is consensual across these three databases. We also note that the specifications using the coding in the PopulistTree and Funke, Schularick, and Trebesch (2023) also produce substantially higher effective F-statistics than the baseline specification based on the PopuList project, suggesting that a stricter coding reduces measurement error while leaving the estimated effect in the second stage basically unchanged.

Table A1: List of populist parties in Europe. *Note: rl = radical left, lw = left-wing, val = valence, rw = right-wing, and rr = radical right.*

Country	Populist Parties
Austria	BZO ^{rw} , FPO ^{rr} , Martin ^{val} , TS ^{rw} , PILZ ^{lw}
Belgium	FN ^{rr} , LDD ^{rw} , PP ^{rr} , VB ^{rr} , N-VA ^{rr}
Bulgaria	Ataka ^{rr} , BBT ^{rr} , GERB ^{val} , NFSB ^{rr} , NDSV ^{val} , VMRO ^{rr} , Volya ^{rr} , Vazrazhdane ^{rr} , ISBG ^{val} , ITN ^{val}
Croatia	HDSSB ^{rr} , HL-SR ^{lw} , Hrast ^{rr} , Most ^{rr} , ZZ ^{val} , DP ^{rr} , HS ^{rr} , BzH ^{rr} , HKS ^{rr} , Mozemo ^{rl} , HDZ ^{rr} [until 2000], BM365 ^{lw}
Cyprus	AKEL ^{rl} , ELAM ^{rr} , SYM / SYPOL ^{rl} , EVROKO ^{rr} , Hunters ^{rr} , NH ^{rr} , Allilegii ^{rr}
Czech Republic	ANO ^{val} , SPD ^{rr} , Usvit ^{rr} , VV ^{val} , Prisaha ^{val} , VB ^{rr}
Denmark	DF ^{rr} , FrP, NB ^{rr}
Estonia	EKo ^{rr} , EKRE ^{rr} , ERP ^{rw} , EK ^{lw}
Finland	PS ^{rr} , Liik ^{val}
France	DLR / DLF ^{rr} , FN / RN ^{rr} , FI ^{rl} , Reconquete ^{rr}
Germany	AfD ^{rr} , Linke ^{rl} , Republikaner ^{rr}
Greece	ANEL ^{rr} , DIKKI ^{rl} , EL ^{rr} , MeRa25 ^{rl} , LAOS ^{rr} , GD ^{rr} , POLAN ^{rr} , SYRIZA ^{rl} , LAE ^{rl} , SYN ^{rl}
Hungary	Fidesz ^{rr} [since 2002], Jobbik ^{rr} , MIÉP ^{rr} , FKgP ^{rr}
Iceland	B-H ^{val} , FIF ^{val} , FSF ^{rw} [until 2016], M ^{rw} , SFI ^{rl}
Ireland	SF ^{lw}
Italy	FI ^{rw} , FdI ^{rr} , Lega ^{rr} , M5S ^{val} , RC ^{rl} , PDL ^{rw} , LR ^{val} , IdV ^{val} , DLSI ^{val}
Latvia	JL ^{val} , KPV LV/PCL ^{rw} , RP ^{val} , NA/TB/LNNK ^{rr} , LPV ^{rw} , New Harmony ^{rl} , KuK ^{rw} , SV ^{rw} , TKL ^{rr}
Lithuania	DP ^{val} [until 2006], DK ^{rw} , LCP ^{rw} , TPP ^{val} , TT ^{rw} , PPNA ^{rw}
Luxembourg	ADR ^{rr}
Netherlands	CD ^{rr} , FVD ^{rr} , LN ^{val} , LPF ^{rw} , PVV ^{rr} , SP ^{rl} , JA21 ^{rr} , BBB ^{rr}
Norway	FrP ^{rr} , Kp ^{rw} , Rodt ^{rl} [since 2012]
Poland	Kukiz '15 ^{rw} , LPR ^{rr} , X ^{rr} , PiS ^{rr} [since 2005], ROP ^{rr} , SO ^{lw} , ZChN ^{rr} , SP ^{rr}
Portugal	Chega ^{rr}
Romania	PP-DD ^{lw} , PRM ^{rr} , PSD ^{lw} [until 1996], PUNR ^{rr} , AUR ^{rr} , PMP ^{rw}
Slovakia	ANO ^{val} , OLaNO ^{val} , PSNS ^{rr} , SNS ^{rr} , SR ^{rr} , Smer ^{lw} , SOP ^{val} , ZRS ^{rl} , HZDS / LS-HZDS ^{rw} , Vlast ^{rr} , Hlas ^{lw}
Slovenia	Levica ^{rl} , LMS ^{val} [until 2018], SDS ^{rr} [since 2000], SNS ^{rr} , ZL ^{rl} , N.Si ^{rr} [since 2011], PoS ^{rw} , Resni.ca ^{val} , SJN ^{rw}
Spain	Podemos ^{rl} [until 2019], UP ^{rl} [until 2019], Vox ^{rr}
Sweden	NyD ^{rw} , SD ^{rr} [since 2001]
Switzerland	LdT ^{rr} , MCG ^{rr} , SD ^{rr} , SVP ^{rr}
UK	DUP ^{rw} , R ^{rl} , UKIP ^{rr} , BRX / Reform ^{rr}

Table A2: List of governments led by populist parties or including them as a junior coalition partner. PM stands for Prime Minister. The duration is based on cabinet composition at the end of each civil year (Part I).

Country	Cabinet Name	Duration	Populist Party	PM
Austria	Schuessel I	2000-2002	FPO	No
	Schuessel II	2002-2003	FPO	No
	Schuessel III	2003-2005	FPO	No
	Schuessel IV	2005-2006	BZO	No
	Kurz I	2017-2018	FPO	No
Belgium	Michel I	2014-2018	N-VA	No
Bulgaria	Sakskoburggotski	2001-2004	NDSV	Yes
	Stanishev	2005-2008	NDSV	No
	Borisov I	2009-2012	GERB	Yes
	Borisov II	2014-2016	GERB	Yes
	Borisov III	2017-2020	GERB, NFSB	Yes
	Petkov	2021	ITN	No
	Denkov	2023-2024	GERB	No
Croatia	Matesa	1995-1999	HDZ	Yes
	Plenkovic I	2016	Most	No
	Plenkovic IV	2024	DP	No
Cyprus	Papadopoulos I	2003-2005	AKEL	No
	Papadopoulos II	2006-2007	AKEL	No
	Christofias I-IV	2008-2012	AKEL	Yes
	Anastasiades I-III	2013-2017	EVROKO	No
Czech Republic	Necas I	2010-2011	VV	No
	Sobotka	2014-2016	ANO	No
	Babis I-II	2017-2020	ANO	Yes
Estonia	Vahi II	1995	EKRE	No
	Kallas S	2002	EK	No
	Parts	2003-2004	EKRE, ERP	Yes
	Ansip I	2005-2006	EKRE, EK	No
	Ratas I	2016-2018	EK	Yes
	Ratas II	2018-2020	EK, EKRE	Yes
	Kallas K I	2021	EK	No
	Sipilae I	2015-2016	PS	No
Finland	Orpo	2023-2024	PS	No
	Papademos	2011	LAOS	No
Greece	Tsipras I	2015-2018	SYRIZA, ANEL	Yes

Table A3: List of governments led by populist parties or including them as a junior coalition partner. PM stands for Prime Minister. The duration is based on cabinet composition at the end of each civil year (Part II).

Country	Cabinet Name	Duration	Populist Party	PM
Hungary	Orban I	1998-2001	FKgP	No
	Orban II-V	2010-2024	Fidesz	Yes
Iceland	Oddsson II-IV	1995-2003	FSF	No
	Asgrimsson	2004-2005	FSF	Yes
	Haarde I	2006	FSF	No
	Gunnlaugsson	2013-2015	FSF	Yes
	Johannsson	2016	FSF	Yes
Italy	Berlusconi I	1995	FI, Lega	Yes
	Berlusconi II-III	2001-2005	FI, Lega	Yes
	Berlusconi IV	2008-2010	FI, Lega	Yes
	Conte I	2018	M5S, Lega	No
	Conte II	2019-2020	M5S	No
	Draghi I	2021	M5S, Lega, FI	No
	Meloni	2022-2024	FdI, Lega, FI	Yes
Latvia	Skele I	1995-1996	TB	No
	Repse	2002-2003	JL	Yes
	Kalvitis I	2004-2005	JL	No
	Dombrovskis I	2009	JL, NA/TB/LNNK	Yes
	Dombrovskis IV	2011-2013	RP, NA/TB/LNNK	No
	Straujuma II	2014-2015	NA/TB/LNNK	No
	Kucinskis I-II	2016-2018	NA/TB/LNNK	No
	Karins I-II	2019-2022	NA/TB/LNNK	No
Lithuania	Brazauskas IV-V	2004-2005	DP	No
	Kubilius II-III	2008-2009	TPP	No
	Butkevicius I-II	2012-2015	TT	No
	Skvernelis III	2019-2023	TT	No
	Paluckas	2024	PPNA	No
Netherlands	Balkenende II	2002	LPF	No
	Schoof	2024	PVV	No
Norway	Solberg I-IV	2013-2020	FrP	No
Poland	Marcinkiewicz I + Kaczynski	2005-2006	PiS, SP, LPR	Yes
	Szydlo	2015-2016	PiS	Yes
	Morawiecki I-II	2017-2022	PiS	Yes

Table A4: List of governments led by populist parties or including them as a junior coalition partner. PM stands for Prime Minister. The duration is based on cabinet composition at the end of each civil year (Part III).

Country	Cabinet Name	Duration	Populist Party	PM
Romania	Vacaroiu II	1995	PSD	No
Slovakia	Meciar VI	1995-1998	HZDS, SNS, ZRS	Yes
	Dzurinda I	1998-2001	SOP	No
	Dzurinda II	2002-2005	ANO	No
	Fico I	2006-2009	HZDS, SNS, Smer	Yes
	Fico II	2012-2015	Smer	Yes
	Fico IV	2016-2017	Smer, SNS	Yes
	Pellegrini	2018-2019	Smer, SNS	Yes
	Matovic	2020	OLaNO, SR	Yes
	Heger I-II	2021-2022	OLaNO, SR	Yes
	Fico V	2023-2024	Smer, Hlas, SNS	Yes
	Jansa I	2004-2007	N.Si, SDS	Yes
Slovenia	Jansa II	2012	N.Si, SDS	Yes
	Jansa IV	2020-2021	N.Si, SDS	Yes
	Golob	2022-2024	Levica	No
Switzerland	Federal Councils	1995-2006; 2007-2024	SVP	No

A.3 Descriptive Statistics

Table A5: Summary Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
populist	900	0.126	0.331	0	1
radical-left populist	900	.01	.0995541	0	1
left-wing populist	900	.02	.1400778	0	1
valence populist	900	.0277778	.1644269	0	1
right-wing populist	900	.0222222	.1474875	0	1
radical-right populist	900	.0444444	.206195	0	1
pop_cab	900	0.286	0.452	0	1
pop_seats	900	0.207	0.190	0	0.778
ENP	900	4.337	1.461	2.118	9.698
AIP	900	5.424	1.592	0	8.7
majority	900	0.75	0.433	0	1
EU	900	0.752	0.432	0	1
gdp	900	48047.41	22967.21	10263.74	142310.9
popl	900	17.12	22.07	.267	84.72
av_temp	900	11.577	6.674	-5.9	28.8

B Identification Strategy

Table B1 lists the general elections included in our data, while Table B2 lists the cities considered when constructing our weather variable.

Table B1: General elections. *Note: Only the last general election held in a calendar year was considered when defining different variables for each year.*

Country	Elections
Austria	1995, 1999, 2002, 2006, 2008, 2013, 2017, 2019, 2024
Belgium	1995, 1999, 2003, 2007, 2010, 2014, 2019, 2024
Bulgaria	1994, 1997, 2001, 2005, 2009, 2013, 2014, 2017, 2021, 2022, 2023, 2024
Croatia	1995, 2000, 2003, 2007, 2011, 2015, 2016, 2020, 2024
Cyprus	1991, 1996, 2001, 2006, 2011, 2016, 2021
Czech Republic	1992, 1996, 1998, 2002, 2006, 2010, 2013, 2017, 2021
Denmark	1994, 1998, 2001, 2005, 2007, 2011, 2015, 2019, 2022
Estonia	1995, 1999, 2003, 2007, 2011, 2015, 2019, 2023
Finland	1995, 1999, 2003, 2007, 2011, 2015, 2019, 2023
France	1993, 1997, 2002, 2007, 2012, 2017, 2022, 2024
Germany	1994, 1998, 2002, 2005, 2009, 2013, 2017, 2021
Greece	1993, 1996, 2000, 2004, 2007, 2009, 2012, 2015, 2019, 2023
Hungary	1994, 1998, 2002, 2006, 2010, 2014, 2018, 2022
Iceland	1995, 1999, 2003, 2007, 2009, 2013, 2016, 2017, 2021, 2024
Ireland	1992, 1997, 2002, 2007, 2011, 2016, 2020, 2024
Italy	1994, 1996, 2001, 2006, 2008, 2013, 2018, 2022
Latvia	1995, 1998, 2002, 2006, 2010, 2011, 2014, 2018, 2022
Lithuania	1992, 1996, 2000, 2004, 2008, 2012, 2016, 2020, 2024
Luxembourg	1994, 1999, 2004, 2009, 2013, 2018, 2023
Netherlands	1994, 1998, 2002, 2003, 2006, 2010, 2012, 2017, 2021, 2023
Norway	1993, 1997, 2001, 2005, 2009, 2013, 2017, 2021
Poland	1993, 1997, 2001, 2005, 2007, 2011, 2015, 2019, 2023
Portugal	1995, 1999, 2002, 2005, 2009, 2011, 2015, 2019, 2022, 2024
Romania	1992, 1996, 2000, 2004, 2008, 2012, 2016, 2020, 2024
Slovakia	1994, 1998, 2002, 2006, 2010, 2012, 2016, 2020, 2023
Slovenia	1992, 1996, 2000, 2004, 2008, 2011, 2014, 2018, 2022
Spain	1993, 1996, 2000, 2004, 2008, 2011, 2015, 2016, 2019, 2023
Sweden	1994, 1998, 2002, 2006, 2010, 2014, 2018, 2022
Switzerland	1995, 1999, 2003, 2007, 2011, 2015, 2019, 2023
UK	1992, 1997, 2001, 2005, 2010, 2015, 2017, 2019, 2024

Table B2: Cities (Regional Level - Based on the main city/capital of a region as defined at a NUTS II level other than the UK, which is disaggregated at NUTS I level)

Country	City
Austria	Eisenstadt, St. Pölten, Vienna, Klagenfurt, Graz, Linz, Salzburg, Innsbruck, Bregenz
Belgium	Brussels, Antwerp, Hasselt, Ghent, Leuven, Bruges, Wavre, Mons, Liège, Arlon, Namur
Bulgaria	Pleven, Ruse, Varna, Burgas, Sofia, Plovdiv
Croatia	Osijek, Dubrovnik, Zagreb
Cyprus	Nicosia
Czech Republic	Prague, České Budějovice, Plzeň, Hradec Králové, Brno, Olomouc, Ostrava
Denmark	Copenhagen, Soro, Vejle, Viborg, Aalborg
Estonia	Tallinn
Finland	Kuopio, Helsinki, Tampere, Oulu (excludes Åland)
France	Paris, Orleans, Dijon, Besançon, Caen, Rouen, Lille, Amiens, Strasbourg, Auvergne, Metz, Nantes, Rennes, Bordeaux, Limoges, Poitiers, Montpellier, Toulouse, Lyon, Marseille (excludes Outre-mer and Corsica)
Germany	Stuttgart, Karlsruhe, Freiburg, Tübingen, Munich, Landshut, Regensburg, Bayreuth, Ansbach, Würzburg, Augsburg, Berlin, Potsdam, Bremen, Hamburg, Darmstadt, Gießen, Kassel, Rostock, Braunschweig, Hanover, Lüneburg, Oldenburg, Düsseldorf, Cologne, Münster, Detmold, Arnsberg, Koblenz, Trier, Neustadt, Saarbrücken, Chemnitz, Dresden, Leipzig, Halle (Saale), Kiel, Erfurt
Greece	Athens, Mytilene, Rhodes, Heraklion, Komotini, Thessaloniki, Kozani, Ioannina, Larissa, Corfu, Patras, Lamia, Tripoli
Hungary	Budapest, Székesfehérvár, Győr, Pécs, Miskolc, Debrecen, Szeged
Iceland	Reykjavik
Ireland	Dublin, Galway, Cork
Italy	Aosta, Genoa, Milan, Turin, Bologna, Trieste, Trento, Venice, Rome, Ancona, Florence, Perugia, L'Aquila, Bari, Potenza, Catanzaro, Naples, Campobasso, Cagliari, Palermo
Latvia	Riga
Lithuania	Vilnius, Kaunas
Luxembourg	Luxembourg City
Netherlands	Groningen, Leeuwarden, Assen, Zwolle, Arnhem, Lelystad, Utrecht, Haarlem, The Hague, Middelburg, 'S-Hertogenbosch, Maastricht
Norway	Oslo, Lillehammer, Kristiansand, Bergen, Steinkjer, Tromsø
Poland	Krakow, Katowice, Poznań, Gorzów, Szczecin, Wrocław, Opole, Bydgoszcz, Gdańsk, Olsztyn, Kielce, Łódź, Lublin, Białystok, Rzeszów, Warsaw
Portugal	Porto, Faro, Coimbra, Lisbon, Evora (excludes Azores and Madeira)
Romania	Cluj, Brasov, Iasi, Constanta, Ploiesti, Bucharest, Craiova, Timisoara
Slovakia	Bratislava, Bauska Bystrica, Kosice
Slovenia	Maribor, Ljubljana
Spain	Santiago, Oviedo, Santander, Bilbao, Pamplona, Logroño, Zaragoza, Madrid, Valladolid, Toledo, Mérida, Barcelona, Valencia, Palma, Seville, Tenerife (excludes Ceuta and Melilla)
Sweden	Stockholm, Uppsala, Jönköping, Malmö, Gothenburg, Gävle, Sundsvall, Umeå
Switzerland	Geneva, Bern, Basel, Zurich, St. Gallen, Luzern, Lugano
UK	Newcastle, Manchester, Leeds, Nottingham, Birmingham, Cambridge, London, Brighton, Bristol, Cardiff, Edinburgh, Belfast

Based on the Shapiro-Francia and Shapiro-Wilk tests, we can not reject the hypothesis that the distribution of average temperatures in each election (Figure B1) follows a normal distribution.

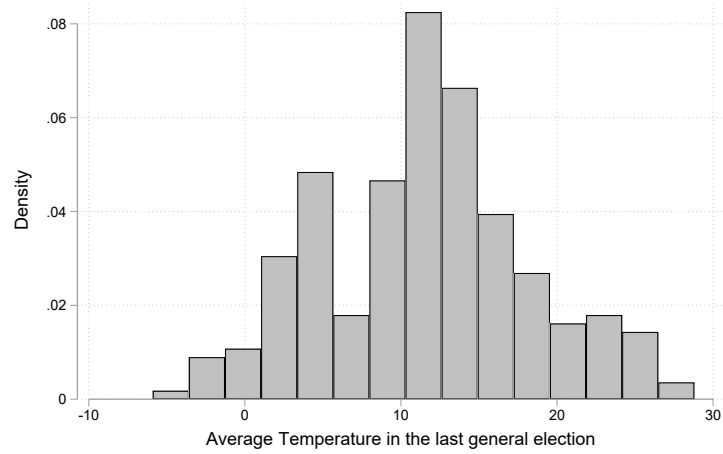


Figure B1: Distributions of average temperature on an election day.

In Figure B2, we find an overview of the average temperatures on election days across the European countries in our sample.

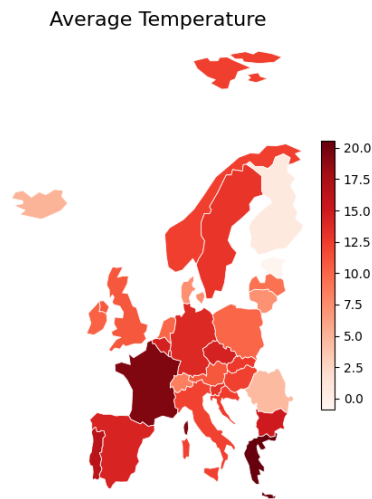


Figure B2: Average temperature on election days.

In Table B3, we see that the instrument is a significant determinant of the probability of observing a populist government. We also observe that the point estimates across different specifications are similar. As discussed in the paper, we expected the 2SLS to be much less efficient than these other alternatives, especially given the relative rarity of the treatment (i.e., populist governments), something that we confirm here. Also, as predicted, the two-step IV (TSIV) suggested in Wooldridge (2010) [Procedure 21.1] extracts more information/variation from the instrument when identifying the endogenous variable, as suggested in Xu (2021). The respective effective F-statistic is comfortably above the critical value of 37.418, which implies that the Nagar bias of the IV estimator should be less than 5% of the worst-case bias. Finally, the estimates remain significant when the t-ratios are adjusted for the F-statistic in stage one following the tF procedure in Lee et al. (2022). We note that the residual from the control function is not significant and the correlation between the errors of both stages is not significant in the CMP-IV (with a non-linear functional form in stage one), suggesting that the election of a populist government and their subsequent tenure in office are not likely endogenous to academic freedom. This conclusion is supported by the Durbin-Wu-Hausman endogeneity test.

For robustness, we consider, as an alternative, both the cold and hot components of the bad weather index as instruments, and we test different bands establishing no or minimal thermal stress in our bad weather index. In the first case, we test the band defined as in the UTCI (9°C - 26°C). In the second case, we relax our current thermal stress intervals by 2°C, resulting in bands of 10°C - 25°C. In the third case, we adopt a more conservative interval, using bands 14°C - 21°C. As depicted in Table B4, these instruments remain a significant determinant of the probability of observing a government led by a populist party.

In Figure B3, we find the results of a permutation test based on randomly reassigning weather shocks across elections. The actual estimated coefficient of bad weather lies at the extreme tail of the distribution of placebo estimates. Therefore, this result suggests that the connection between bad weather and populist electoral success is unlikely to be due to chance.

Table B3: First and second stage results: 2SLS, two-step IV (TSIV), CF (non-linear stage one), and CMP-IV.

	2SLS	TSIV	CF	CMP-IV
	(1)	(2)	(3)	(4)
Panel A: Instrument				
bad_weather	-.037*** (.010)	-.539*** (.119)	-.539*** (.119)	-.557*** (.123)
Panel B: Populist effect				
Populist	-.199 (.237)	-.180** ₊₊ (.087)	-.193** (.094)	-.190** (.089)
$\varepsilon_{i,t}$			.044 (.047)	
ρ				.150 (.144)
Country Controls	Yes	Yes	Yes	Yes
Effective F-statistic	16.509	72.209	-	-
Durbin-Wu-Hausman (p-value)	-	.460	-	-
Observations	870	840	840	870

Clustered standard errors at the country level in parentheses. The coefficients from stage one in the TSIV, CF, and CMP-IV are Probit coefficients and thus are not comparable to the estimates from a 2SLS. $\varepsilon_{i,t}$ represents the CF's residual from stage one, while ρ represents the correlation between the error terms of stage one and stage two in the CMP-IV. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. ++ indicates a significance level $p < 0.05$ after adjusting the t-ratios for the first-stage F-statistic, following the tF procedure in (Lee et al. 2022).

Table B4: First-stage results (instrument robustness).

	Components	UTCI	10°C - 25°C	14°C - 21°C
	(1)	(2)	(3)	(4)
cold	-.554*** (.126)			
hot	-.447*** (.186)			
bad_weather		-.480*** (.138)	-.502*** (.131)	-.379*** (.122)
Country Controls	Yes	Yes	Yes	Yes
Observations	840	840	840	840

Clustered standard errors at the country level in parentheses. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

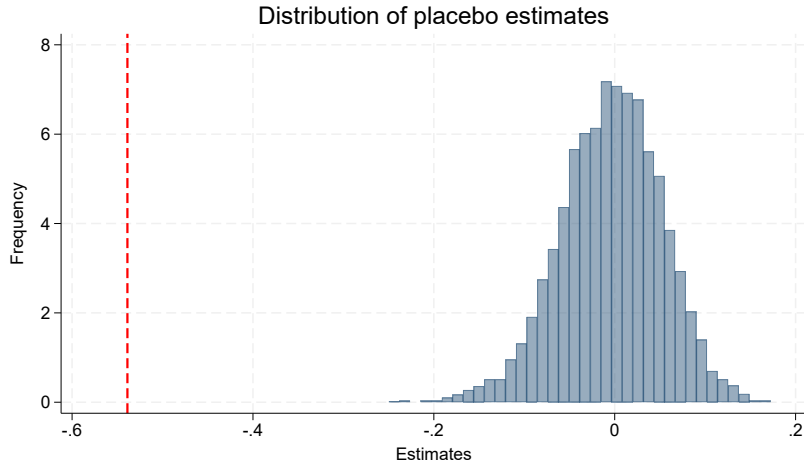


Figure B3: Distribution of placebo estimates of weather conditions by the permutation of weather shocks across elections (based on 5,000 estimates). The dashed line in red indicates the actual estimate of the bad weather.

As an alternative placebo, we test a sequence of instruments based on the weather conditions observed in a monthly window during the 3 months before and after an election. As depicted in Table B5, the resulting instruments, except for the one based on temperatures observed one month after an election, are not significant determinants of

the probability of observing a populist government. The only exception is not necessarily surprising considering the expected correlation between temperatures observed in months close to an election day, which becomes weaker as we move away from that date. We acknowledge that this result slightly weakens the specificity of the identifying variation. However, overall, the robustness tests, taken together, including the alternative instruments below using precipitation and deviations from historical averages, support the validity of the current instrument.

Table B5: First-stage results - Placebo instruments based on weather conditions before and after an election (six-month window).

	3 months before	2 months before	1 month before	1 month after	2 months after	3 month after
	(1)	(2)	(3)	(4)	(5)	(6)
Placebo	.069 (.087)	.001 (.084)	-.162 (.100)	-.220* (.127)	-.083 (.112)	-.028 (.120)
Country Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	840	840	840	840	840	840

Clustered standard errors at the country level in parentheses. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

In Table B6, we introduce further lags in academic freedom, and examine whether the instrument is a significant predictor of pre-trends. The results do not confirm that hypothesis, supporting the exogeneity assumption in our identification strategy.

Table B6: Pre-trends in academic freedom in models including one, two, and three-year lags in academic freedom.

	One-Period Lag	Two-Period Lag	Three-Period Lag
	(1)	(2)	(3)
bad_weather	-.011 (.008)	-.008 (.008)	-.010 (.009)
Country Controls	Yes	Yes	Yes
Observations	732	704	675

Clustered standard errors at the country level in parentheses. All regressions include country and year fixed effects. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

As an alternative approach for measuring the effect of populist episodes on academic freedom, we could have employed an event study design. However, the stacked succession of populist episodes, the variable length of populist tenures, the overlap between treatment and post-treatment periods, and the endogenous nature of the treatment prevent using this approach as the baseline estimation technique. Despite these issues, we present a simplified design focused solely on the first populist episode as the treatment to further assess the potential existence of pre-trends and the direction of the treatment effect. We consider a 3-year window interval since it matches the average length of such tenures. We note, however, that the respective results and effects are contaminated by the issues listed above. Therefore, it should only serve as an extraordinary piece of evidence used to assess potential pre-trends on academic freedom.

As depicted in Figure B4, before the first populist event in each country, we do not have evidence suggesting their existence, consistent with the results in Table B6. At the same time, we observe a decline in academic freedom after a populist event, but with an impact that is somewhat limited (for the reasons mentioned above).

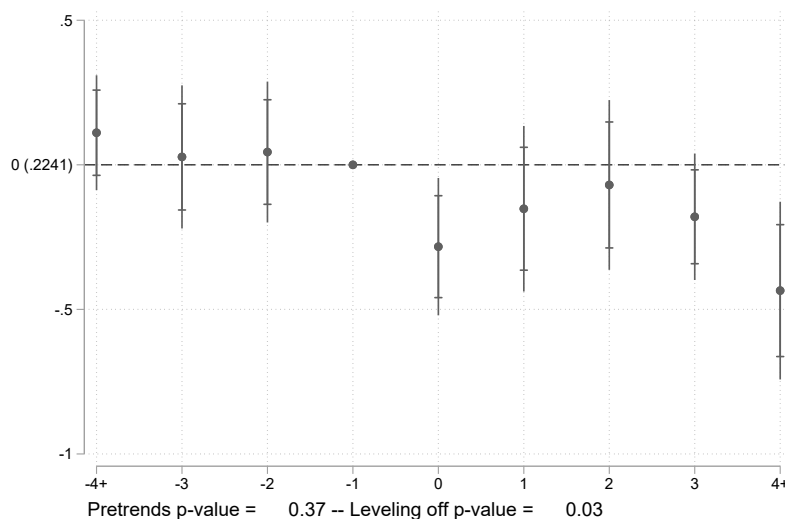


Figure B4: Event study plot using only the first populist episode and a 3-year window.

We also tested alternative weather instruments based on the average precipitation on

an election day. Although precipitation is often used in the literature as a determinant of electoral outcomes, such as turnout, in this case, it fails to account for the election of a populist. The average precipitation variable was constructed in the same way as the average temperature. In one specification, we also consider its square, allowing for a potential non-linear relation with our endogenous populist variable.

A second set of alternative instruments includes precipitation indices. The first one (precipitation_index) is based on thresholds used by the Met Office in the UK and combines two variables. The first one refers to days with light rain (below 10mm in a day), while the second one accounts for days with moderate to heavy rain. The first variable is defined as $\text{light_rain}_{i,e} = \text{average precipitation}_{i,e}$ if $10 > \text{average precipitation}_{i,e} > 0$ in a country i in election e and $\text{moderate-heavy_rain}_{i,e} = \text{average precipitation}_{i,e}$ if $\text{average precipitation}_{i,e} \geq 10$, and zero otherwise. The variables are standardized and combined to form a precipitation index. The second index (precipitation_index_bin) is constructed in a similar way. But this time, it only indicates whether an election day took place during a dry day, a day with light rain, or one with moderate to heavy rain. In that case, $\text{light_rain}_{i,e} = 1$ if $10 > \text{average precipitation}_{i,e} > 0$ in a country i in election e and $\text{moderate-heavy_rain}_{i,e} = 2$ if $\text{average precipitation}_{i,e} \geq 10$, and zero otherwise.

Finally, we also examine the importance of the average temperature on an election day relative to monthly and seasonal historical averages. We obtained those averages from the Climate Change Knowledge Portal at the World Bank, based on historical data between 1950 and 2022 coming from the ERA5 database. We define deviations from seasonal and monthly averages as $\text{av_temp_season} = |\text{average temperature} - \text{seasonal average}|$ and $\text{av_temp_month} = |\text{average temperature} - \text{monthly average}|$.

As depicted in Table B7, none of these alternative instruments is a significant determinant of observing a populist government.

Table B7: First-stage results (alternative instruments).

	(1)	(2)	(3)	(4)	(5)	(6)
average precipitation	-.009 (.024)	.012 (.048)				
average precipitation ²		-.001 (.001)				
precipitation_index			-.009 (.024)			
precipitation_index_bin				.002 (.183)		
av_temp_season					.021 (.039)	
av_temp_month						-.051 (.043)
Country Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	840	840	840	840	840	840

Clustered standard errors at the country level in parentheses. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

We should also note that when using deviations from seasonal and monthly averages, we are modifying the intuition and economic meaning underlying our identification strategy. Our strategy is grounded in physiological and behavioral responses to absolute thermal conditions on an election day, and thus, not necessarily on whether the weather was worse or better than usual. A day that is 1°C colder than the historical average will not, in principle, trigger some form of thermal stress (and thus, a behavioral response), especially if the observed temperature still lies within the thermal-neutral zone. For example, an election held on a day with an average temperature of 18°C when the historical average is 19°C would be seen as a negative deviation in the above sense, while still being physiological and psychologically comfortable. This is not to say that unexpected large weather shocks do not play a role in depressing turnout or affecting risk tolerance. However, in our dataset, we do not have enough of such shocks to potentially identify our endogenous variable.

Table B8: First-stage results (adaptation hypothesis).

	(1)	(2)
bad_weather (+/-2)	-.574*** (.125)	
bad_weather (+/-4)		-.561*** (.131)
Country Controls	Yes	Yes
Observations	840	840

Clustered standard errors at the country level in parentheses. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

To conclude, in Table B8, we further explore the role of adaptation by adjusting the thermal stress bands based on the historical climate of a country. In the five countries in our sample with the lowest historical temperature averages (Finland, Norway, Sweden, Estonia, and Iceland) and highest historical average temperatures (Portugal, Spain, Cyprus, Greece, and Italy), we define two instruments where the lower band for the first of group of countries is reduced by 2 and 4 degrees celsius, while the upper band for the second group of countries is increased in the same magnitude. The results show that the instrument remains a strong and significant predictor of populist episodes.

C Robustness Checks, Estimation Results, and Power

C.1 First differences and additional lags

Table C1: Robustness check - Academic Freedom in first differences and additional lags.

	First Differences	Two lags	Three lags
	(1)	(2)	(3)
Populist	-.13** (.051)	-.179** (.072)	-.179** (.074)
Country Controls	Yes	Yes	Yes
Observations	870	840	810

Clustered standard errors at the country level in parentheses. All regressions include country and year fixed effects. First differences refer to the academic freedom being defined in first differences (i.e., $\text{academic freedom}_t - \text{academic freedom}_{t-1}$). Two lags refer to a regression where we include both the first and second lag of academic freedom as independent variables. Three lags refer to a regression that includes three past lags of academic freedom. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

C.2 Expert (dis)agreement

Considering the nature of our dependent variable, we conduct a robustness check where we restrict our sample to observations where experts' disagreement is very low (given the standard deviation of experts' assessment of academic freedom). In one case, we restrict our sample to observations where the standard deviation is in the lowest tertile (33rd percentile), which we denote as **low**; in another, we restrict even further to the lowest quartile (25th percentile), which we denote as **very low**. Our conclusions remain qualitatively the same. However, the attenuation of the estimate appears to reflect the exclusion of country-years associated with larger declines in academic freedom, coinciding with populist tenures in Hungary and Poland, or some post-populist governments in Greece and Bulgaria. Even though the baseline estimate appears to be driven by more contested observations, we note that the lower and upper bounds of uncertainty either remained stable (mostly in countries without a populist government) or trended downwards (in cases where populists are in power). Therefore, the nature of the disagreement

appears to be, primarily, about the severity of the decline in academic freedom, and not necessarily whether the same took place.

Table C2: Populist effect with low expert disagreement.

	Low	Very Low
	(1)	(2)
Populist	-.058*** (.019)	-.053*** (.020)
Country Controls	Yes	Yes
Observations	795	683

Clustered standard errors at the country level in parentheses. Low disagreement means a standard deviation in the lowest tertile, while a very low disagreement indicates a standard deviation in the lowest quartile. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

C.3 Estimation Results

Table C3: Effect of Populist Tenure on different components of academic freedom.

	(1)	(2)	(3)	(4)	(5)
Panel A: TWFE estimates					
Populist	-.14 (.09)	-.27*** (.08)	-.12** (.05)	-.10* (.06)	-.32*** (.08)
Country-level controls	Yes	Yes	Yes	Yes	Yes
Observations	870	870	870	870	870
Panel B: IV estimates					
Populist	-.31*** (.11)	-.22* (.11)	-.10 (.09)	-.22*** (.08)	-.32*** (.11)
Country-level controls	Yes	Yes	Yes	Yes	Yes
Observations	840	840	840	840	840
Effective F-statistic	107.632	87.394	100.438	87.239	78.390
Durbin-Wu-Hausman (p-value)	.014	.883	.904	.023	.416

Clustered standard errors at the country level in parentheses. Column (1): Freedom of Academic Exchange and Dissemination; Column (2): Freedom to Research and Teach; Column (3): Institutional Autonomy; Column (4): Campus Integrity; Column (5): Freedom of Academic and Cultural Expression. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table C4: Academic Freedom during and after populist tenures.

	TWFE		IV
	(1)	(2)	(3)
Populist Government			
First Term	-.142*		-.132
	(.080)		(.080)
Second Term	-.238**		-.244**
	(.096)		(.120)
After a Populist Government			
First Term		.165**	
		(.072)	
Second Term		.021	
		(.042)	
Country-level Controls	Yes	Yes	Yes
Observations	870	870	870

Clustered standard errors at the country level in parentheses. The IV estimates result from a CMP model with an ordered probit in stage one. The correlation between the error terms in the CMP is not statistically significant ($\rho = .103$, $p = .426$) Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table C5: Effect of radical-right and non-radical-right populist governments on academic freedom and its components.

	(1)	(2)	(3)	(4)	(5)	(6)
Radical-Left Populist	.033 (.061)	.047 (.046)	.080 (.052)	.117*** (.038)	-.011 (.033)	-.077* (.044)
Left-Wing Populist	-.117*** (.031)	.048 (.034)	-.354*** (.044)	-.074 (.058)	-.007 (.037)	-.394*** (.122)
Valence Populist	.011 (.045)	.025 (.073)	-.077 (.088)	.036 (.039)	-.006 (.040)	-.064 (.076)
Right-Wing Populist	-.078** (.036)	.043 (.034)	-.112 (.071)	-.089 (.058)	-.116** (.054)	-.193 (.116)
Radical-Right Populist	-.533** (.198)	-.532** (.194)	-.620*** (.156)	-.364*** (.081)	-.256 (.170)	-.660*** (.103)
Country-level controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	840	840	840	840	840	840

Clustered standard errors at the country level in parentheses. Column (1): Academic Freedom; Column (2): Freedom of Academic Exchange and Dissemination; Column (3): Freedom to Research and Teach; Column (4): Institutional Autonomy; Column (5): Campus Integrity; Column (6): Freedom of Academic and Cultural Expression. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table C6: The effect of a populist junior coalition partner and populist seat share in the parliament on academic freedom.

	(1)	(2)	(3)	(4)	(5)
Junior coalition partner	-.076*		-.055		
	(.044)		(.036)		
Seat share in the parliament		-.242		-.210	
		(.187)		(.178)	
Seat share in the parliament (adjusted)					.006
					(.149)
Country Controls	No	No	Yes	Yes	Yes
Observations	870	870	870	870	870

Clustered standard errors at the country level in parentheses. The adjusted estimate of consequences of changes in the populist seat share in the parliament holds constant whether the government was led by a populist party. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table C7: The effect of populist tenures on Academic Freedom using the PopulisTree classification.

	TWFE	TWFE	IV
	(1)	(2)	(3)
Populist	-.222**	-.209**	-.163**
	(.098)	(.095)	(.073)
Country-level controls	No	Yes	Yes
Observations	870	870	840
Effective F-statistic	-	-	143.070
Durbin-Wu-Hausman (p-value)	-	-	.604

Clustered standard errors at the country level in parentheses. The dependent variable is standardized with a mean of zero and a standard deviation equal to one. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

C.4 Power

The sample in this study comprises 900 country-year observations. Despite its size, as noted in Arel-Bundock et al. (2026), many studies using even larger datasets are often

greatly underpowered for conventional alpha levels and small effect sizes. Considering our empirical strategy, we can compute the minimum detectable effect with 80% power and an $\alpha = 0.05$, as the $[\text{z-score}(\alpha) + \text{z-score}(\text{power})] \times \text{standard errors (variable of interest)}$. In our results, the estimates regarding the effect of populist tenures on the freedom of academic exchange and dissemination, campus integrity, freedom of academic and cultural expression, freedom of expression, and alternative sources of information, together with the effect of radical-right and left-wing populist governments on academic freedom, all exceed the corresponding detection thresholds. Although we note that issues related to the lack of power apply to most cross-country panels in economics and political science, considering the limitations regarding sample size and the extent of the time series, it implies that some results should be taken conservatively. In any case, as recommended in Arel-Bundock et al. (2026), we ground our analysis on a detailed theoretical framework and use multiple examples, facts, and sources to justify our results. Moreover, the fact that, in the broader domain of freedom of expression and media freedom, the results are substantial and adequately powered adds further support to the validity of our conclusions when we focus on academic freedom.

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