Online appendix

Article 'Going Negative, Worldwide. Towards a General Understanding of Determinants and Targets of Negative Campaigning', published in *Government and Opposition* (Nai, Alessandro; accepted August 2018)

Content

Appendix A Elections and candidates 2

Appendix B Robustness checks (analyses at the candidate level) 6

Appendix C Robustness checks (analyses at the dyads level) 12

Appendix D Left-right positioning of candidates 15

Appendix E Assessing expert biases 19

Appendix F Descriptive statistics 25

\*\*

Please contact the author for more information about the article and/or the data set:

Alessandro Nai

University of Amsterdam

Amsterdam School of Communication Research (ASCoR)

Postbus 15793

1001 NG Amsterdam, The Netherlands

a.nai@uva.nl

www.alessandro-nai.com

# Appendix A

Elections and candidates

**Table A1**. Elections

|  |  |  |  |
| --- | --- | --- | --- |
| **Country** | **Election** | **Date** | **Nb experts** |
| Algeria | Election of the National People's Assembly | 4-May-17 | 6 |
| Armenia | Parliamentary election | 2-Apr-17 | 6 |
| Australia | Federal election | 2-Jul-16 | 26 |
| Austria | Presidential election | 4-Dec-16 | 37 |
| Belarus | Election of the Chamber of the Representatives | 11-Sep-16 | 13 |
| Bulgaria | Presidential election | 6-Nov-16 | 23 |
| Bulgaria | Legislative election | 26-Mar-17 | 14 |
| Côte d'Ivoire | Election of the National Assembly | 18-Dec-16 | 7 |
| Croatia | Election of the Assembly | 11-Sep-16 | 18 |
| Ecuador | Presidential election | 19-Feb-17 | 22 |
| France | Presidential election | 23-Apr-17 | 32 |
| Georgia | Parliamentary election | 8-Oct-16 | 18 |
| Ghana | Presidential election | 7-Dec-16 | 13 |
| Hong Kong | Election of the Legislative Council | 4-Sep-16 | 14 |
| Iceland | Presidential election | 25-Jun-16 | 14 |
| Iceland | Election for the Althing | 29-Oct-16 | 14 |
| Iran | Presidential election | 19-May-17 | 5 |
| Japan | House of Councillors election | 10-Jul-16 | 21 |
| Lithuania | Parliamentary election | 9-Oct-16 | 28 |
| Macedonia | Election of the Assembly | 11-Dec-16 | 22 |
| Moldova | Presidential election | 30-Oct-16 | 12 |
| Mongolia | Election of the State Great Hural | 29-Jun-16 | 8 |
| Montenegro | Parliamentary election | 16-Oct-16 | 16 |
| Morocco | Election of the Chamber of Representatives | 7-Oct-16 | 10 |
| Nicaragua | Presidential election | 6-Nov-16 | 5 |
| Romania | Legislative election | 11-Dec-16 | 23 |
| Russia | Election of the State Duma | 18-Sep-16 | 28 |
| Serbia | Presidential election | 2-Apr-17 | 10 |
| South Korea | Presidential election | 9-May-17 | 5 |
| Spain | General election | 26-Jun-16 | 19 |
| The Bahamas | Election of the House of Assembly | 10-May-17 | 12 |
| The Netherlands | General elections | 15-Mar-17 | 40 |
| USA | Presidential election | 8-Nov-16 | 75 |
| Uzbekistan | Presidential election | 4-Dec-16 | 6 |
| Zambia | Presidential election | 11-Aug-16 | 6 |

Note: Includes only elections for which at least 5 experts opinions were gathered.

**Table A2**. Candidates

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Country** | **Elect a** | **Candidate** | **Party** | **Tone**  **(adj) b** | **Tone**  **(orig) c** | **Consist d** |
| Algeria | L | Djamel Ould Abbes | Front de Libération Nationale | 3.75 | 0.00 | 0.17 |
|  |  | Abdelmalek Bouchafa | Front des Forces Socialistes | 5.50 | -3.40 | 0.18 |
|  |  | Louisa Hanoune | Parti des Travailleurs | 5.75 | -3.40 | 0.19 |
|  |  | Ahmed Ouyahia | Rassemblement National Démocratique | 4.50 | -1.00 | 0.15 |
| Armenia | L | Artur Baghdasaryan | Armenian Renaissance | 5.50 | -4.50 | 0.10 |
|  |  | Hrant Markarian | Armenian Revolutionary Federation | 4.00 | 2.50 | 0.12 |
|  |  | Edmon Marukyan | Way out alliance | 3.33 | 1.20 | 0.16 |
|  |  | Serzh Sargsyan | Republican Party of Armenia | 4.33 | 1.00 | 0.34 |
|  |  | Levon Ter-Petrosyan | Congress-People’s Party Alliance | 4.75 | -1.17 | 0.19 |
|  |  | Gagik Tsarukyan | Tsarukyan alliance | 2.50 | 3.33 | 0.24 |
| Australia | L | Richard Di Natale | The Greens | 3.45 | 0.87 | 0.16 |
|  |  | Bill Shorten | Australian Labor Party | 3.95 | -0.30 | 0.19 |
|  |  | Malcolm Turnbull | Liberal Party of Australia / Nationals | 4.00 | -0.13 | 0.16 |
|  |  | Nick Xenophon | Nick Xenophon Team | 3.70 | 0.61 | 0.14 |
| Austria | P | Norbert Hofer | Freedom Party of Austria | 5.68 | -5.17 | 0.15 |
|  |  | Alexander Van der Bellen | Independent candidate / The Greens | 4.03 | -0.37 | 0.13 |
| Belarus | L | Sergei Gaidukevich | Liberal Democratic Party | 3.75 | -0.67 | 0.11 |
|  |  | Tatsyana Holubeva | Communist Party of Belarus | 3.50 | 2.00 | 0.09 |
|  |  | Anatoly Lebedko | United Civic Party of Belarus | 4.43 | -0.33 | 0.24 |
|  |  | Vasil Zadnyaprany | Republican Party of Labour and Justice | 3.50 | 1.33 | 0.12 |
| Bulgaria | P | Tatyana Doncheva | National Mvt for Stability and Progress | 4.84 | -2.70 | 0.20 |
|  |  | Ivailo Kalfin | Alternative for Bulgarian Revival | 3.53 | 1.00 | 0.13 |
|  |  | Krasimir Karakachanov | United Patriots | 5.38 | -3.77 | 0.15 |
|  |  | Rumen Radev | Independent candidate / Bulg. Socialist Party | 3.62 | 0.91 | 0.14 |
|  |  | Traycho Traykov | Reformist Bloc | 2.90 | 2.86 | 0.19 |
|  |  | Tsetska Tsacheva | GERB | 4.05 | -0.18 | 0.20 |
| Bulgaria | L | Boyko Borisov | GERB | 4.30 | 0.50 | 0.24 |
|  |  | Mustafa Karadayi | Movement for Rights and Freedoms | 3.50 | 0.60 | 0.13 |
|  |  | Veselin Mareshki | Volya | 4.90 | -2.92 | 0.18 |
|  |  | Petar Moskov | Reformist Bloc | 3.78 | 0.36 | 0.10 |
|  |  | Korneliya Ninova | Bulgarian Socialist Party | 5.30 | -4.08 | 0.17 |
|  |  | Valeri Simeonov | United Patriots | 5.60 | -5.17 | 0.18 |
| Côte d'Ivoire | L | Henri Konan Bédié | Parti démocratique de Côte d’Ivoire | 3.00 | 2.50 | 0.18 |
|  |  | Pascal Affi N'Guessan | Front Populaire Ivoirien | 5.50 | -5.00 | 0.35 |
|  |  | Alassane Ouattara | Rassemblement des Républicains | 2.50 | 4.50 | 0.32 |
| Croatia | L | Zoran Milanović | Social Democratic Party of Croatia | 5.93 | -6.39 | 0.18 |
|  |  | Božo Petrov | Bridge of Independent Lists | 4.87 | -2.59 | 0.26 |
|  |  | Andrej Plenković | Croatian Democratic Union | 3.00 | 2.89 | 0.21 |
|  |  | Ivan Vilibor Sinčić | Human Shield | 5.60 | -4.50 | 0.26 |
| Ecuador | P | Dalo Bucaram | Fuerza Ecuador | 4.76 | -2.29 | 0.24 |
|  |  | Guillermo Lasso | Creando Oportunidades | 3.83 | 0.58 | 0.23 |
|  |  | Paco Moncayo | Acuerdo Nacional por el Cambio | 2.61 | 4.00 | 0.19 |
|  |  | Lenín Moreno | Alianza PAIS | 3.89 | 0.05 | 0.25 |
|  |  | Cynthia Viteri | Partido Social Cristiano | 3.78 | 0.58 | 0.20 |
| France | P | François Fillon | Les Républicains | 3.96 | -0.17 | 0.19 |
|  |  | Benoît Hamon | Parti Socialiste | 2.72 | 3.43 | 0.16 |
|  |  | Marine Le Pen | Front National | 5.60 | -4.73 | 0.17 |
|  |  | Emmanuel Macron | En Marche | 2.24 | 4.63 | 0.14 |
|  |  | Jean-Luc Mélenchon | La France Insoumise | 4.32 | -1.20 | 0.22 |
| Georgia | L | Irakli Alasania | Free Democrats | 3.88 | 1.79 | 0.18 |
|  |  | Davit Bakradze | United National Movement | 4.13 | -1.29 | 0.20 |
|  |  | Paata Burchuladze | State for a People | 4.29 | 0.00 | 0.15 |
|  |  | Nino Burjanadze | Democratic Movement – United Georgia | 5.50 | -3.71 | 0.19 |
|  |  | Irma Inashvili | Alliance of Patriots of Georgia | 6.14 | -5.08 | 0.17 |
|  |  | Giorgi Kvirikashvili | Georgian Dream – Democratic Georgia | 2.88 | 4.07 | 0.19 |
|  |  | Shalva Natelashvili | Georgian Labour Party | 5.75 | -4.86 | 0.17 |
| Ghana | P | Nana Akufo-Addo | New Patriotic Party | 3.58 | 1.15 | 0.24 |
|  |  | Ivor Greenstreet | Convention People's Party | 3.64 | 1.17 | 0.11 |
|  |  | John Dramani Mahama | National Democratic Congress | 4.50 | -1.46 | 0.28 |
|  |  | Paa Kwesi Nduom | Progressive People's Party | 2.82 | 3.17 | 0.21 |
| Hong Kong | L | Vincent Fang | Liberal Party | 4.00 | -0.20 | 0.07 |
|  |  | Regina Ip | New People's Party | 4.67 | -0.30 | 0.14 |
|  |  | Emily Lau | Democratic Party | 5.00 | 0.56 | 0.17 |
|  |  | Nathan Law | Demosistō | 4.22 | -0.33 | 0.19 |
|  |  | Starry Lee | Dem. All. for the Betterment and Prog. of HK | 3.00 | 1.11 | 0.12 |
|  |  | Alan Leong | Civic Party | 4.67 | -0.38 | 0.12 |
|  |  | Andrew Leung | Business and Professionals Alliance for HK | 4.00 | 0.33 | 0.10 |
|  |  | Lam Suk-yee | Hong Kong Federation of Trade Unions | 4.00 | 0.50 | 0.10 |
|  |  | Suzanne Wu | Labour Party | 3.50 | 1.33 | 0.06 |
|  |  | Erica Yuen | People Power–League of Social Democrats | 5.00 | -1.29 | 0.15 |
| Iceland | P | Davíð Oddsson | Independence Party | 5.92 | -5.93 | 0.14 |
| Iceland | L | Bjarni Benediktsson | Independence Party | 2.91 | 3.42 | 0.27 |
|  |  | Oddný Guðbjörg Harðardóttir | Social Democratic Alliance | 2.13 | 6.00 | 0.15 |
|  |  | Katrín Jakobsdóttir | Left-Green Movement | 1.90 | 6.73 | 0.14 |
|  |  | Benedikt Jóhannesson | Viðreisn | 2.22 | 5.80 | 0.16 |
|  |  | Sigurður Ingi Jóhannsson | Progressive Party | 2.78 | 4.10 | 0.24 |
|  |  | Birgitta Jónsdóttir | Pirate Party | 3.09 | 2.25 | 0.25 |
|  |  | Óttarr Proppé | Bright Future | 1.89 | 6.40 | 0.13 |
| Iran | P | Mostafa Hashemitaba | Executives of Construction Party | 2.67 | 3.33 | 0.08 |
|  |  | Mostafa Mir-Salim | Islamic Coalition Party | 5.00 | -3.33 | 0.18 |
|  |  | Ebrahim Raisi | Combatant Clergy Association | 5.60 | -4.80 | 0.14 |
|  |  | Hassan Rouhani | Moderation and Development Party | 3.20 | 2.00 | 0.18 |
| Japan | L | Shinzō Abe | Liberal Democratic Party | 3.20 | 2.60 | 0.25 |
|  |  | Yukio Edano | Democratic Party of Japan | 4.75 | -2.15 | 0.17 |
|  |  | Kazuo Shii | Japanese Communist Party | 5.60 | -4.90 | 0.19 |
|  |  | Natsuo Yamaguchi | Komeito | 3.05 | 3.10 | 0.21 |
| Lithuania | L | Linas Balsys | Lithuanian Green Party | 4.00 | -0.17 | 0.16 |
|  |  | Algirdas Butkevičius | Social Democratic Party of Lithuania | 3.13 | 3.40 | 0.19 |
|  |  | Ramūnas Karbauskis | Lithuanian Peasant and Greens Union | 3.57 | 1.46 | 0.25 |
|  |  | Gabrielius Landsbergis | Homeland Union – Lith. Christian Democrats | 3.40 | 1.80 | 0.24 |
|  |  | Valentinas Mazuronis | Labour Party | 4.40 | -1.55 | 0.18 |
|  |  | Rolandas Paksas | Party Order and Justice | 4.86 | -3.19 | 0.19 |
|  |  | Remigijus Šimašius | Liberal Movement | 3.14 | 2.91 | 0.14 |
|  |  | Valdemar Tomaševski | Electoral Action of Poles in Lithuania | 5.15 | -3.30 | 0.18 |
|  |  | Jonas Varkala | The Way of Courage | 5.30 | -3.38 | 0.17 |
| Macedonia | L | Ali Ahmeti | Democratic Union for Integration | 4.82 | -3.15 | 0.21 |
|  |  | Nikola Gruevski | VMRO-DPMNE | 6.07 | -6.28 | 0.24 |
|  |  | Bilall Kasami | Lëvizja Besa | 3.80 | -1.17 | 0.30 |
|  |  | Menduh Thaçi | Democratic Party of Albanians | 5.18 | -4.46 | 0.17 |
|  |  | Zoran Zaev | Social Democratic Union of Macedonia | 3.87 | -0.56 | 0.27 |
| Moldova | P | Igor Dodon | Party of Socialists of the Republic of Moldova | 6.11 | -6.22 | 0.19 |
|  |  | Mihai Ghimpu | Liberal Party | 3.78 | 0.67 | 0.22 |
|  |  | Iurie Leancă | European People's Party | 3.33 | 1.89 | 0.20 |
|  |  | Maia Sandu | Action and Solidarity | 2.78 | 3.89 | 0.20 |
| Mongolia | L | Nambaryn Enkhbayar | Mongolian People's Revolutionary Party | 5.80 | -3.38 | 0.23 |
|  |  | Miyeegombyn Enkhbold | Mongolian People's Party | 4.20 | 0.00 | 0.16 |
|  |  | Zandaakhüügiin Enkhbold | Democratic Party | 3.00 | 2.00 | 0.15 |
| Montenegro | L | Aleksa Bečić | Democratic Montenegro | 3.25 | 1.79 | 0.24 |
|  |  | Ivan Brajović | Social Democrats of Montenegro | 3.50 | 1.29 | 0.15 |
|  |  | Milo Đukanović | Democratic Party of Socialists of Montenegro | 5.25 | -4.43 | 0.17 |
|  |  | Rafet Husović | Bosniak Party | 3.33 | 1.45 | 0.18 |
|  |  | Ranko Krivokapić | Social Democratic Party of Montenegro | 3.92 | -0.71 | 0.20 |
|  |  | Miodrag Lekić | Key Coalition | 4.08 | -0.64 | 0.20 |
|  |  | Andrija Mandić | Democratic Front | 6.42 | -7.86 | 0.11 |
| Morocco | L | Abdelilah Benkirane | Justice and Development Party | 4.83 | -2.29 | 0.25 |
|  |  | Abdelhamid Chabat | Istiqlal Party | 6.00 | -5.00 | 0.17 |
|  |  | Mohand Laenser | Popular Movement | 4.75 | -1.60 | 0.18 |
|  |  | Salaheddine Mezouar | National Rally of Independents | 4.40 | -1.00 | 0.10 |
| Nicaragua | P | Saturnino Cerrato Hodgson | Alianza Liberal Nicaragüense | 3.50 | 0.50 | 0.53 |
|  |  | Daniel Ortega | Frente Sandinista de Liberación Nacional | 3.75 | 1.25 | 0.28 |
|  |  | Maximino Rodríguez | Partido Liberal Constitucionalista | 6.50 | -7.00 | 0.07 |
|  |  | Pedro Reyes Vallejos | Partido Liberal Independiente | 5.50 | -3.50 | 0.32 |
| Romania | L | Traian Băsescu | Alliance of Liberals and Democrats | 5.47 | -4.43 | 0.19 |
|  |  | Nicușor Dan | Save Romania Union | 4.74 | -2.05 | 0.24 |
|  |  | Liviu Dragnea | Social Democratic Party | 3.84 | 0.38 | 0.24 |
|  |  | Alina Gorghiu | National Liberal Party | 5.00 | -2.57 | 0.23 |
|  |  | Hunor Kelemen | Democratic All. of Hungarians in Romania | 3.82 | 0.42 | 0.18 |
|  |  | Călin Popescu-Tăriceanu | Alliance of Liberals and Democrats | 4.61 | -1.45 | 0.20 |
| Russia | L | Dmitry Medvedev | United Russia | 2.32 | 3.96 | 0.22 |
|  |  | Sergey Mironov | A Just Russia | 3.78 | -0.14 | 0.21 |
|  |  | Vladimir Zhirinovsky | LDPR | 4.77 | -2.54 | 0.22 |
|  |  | Gennady Zyuganov | Communist Party | 4.45 | -1.12 | 0.16 |
| Serbia | P | Saša Janković | Independent candidate | 3.44 | 1.50 | 0.24 |
|  |  | Vuk Jeremić | Independent candidate | 4.00 | 0.30 | 0.20 |
|  |  | Boško Obradović | Dveri | 5.00 | -2.89 | 0.24 |
|  |  | Vojislav Šešelj | Serbian Radical Party | 6.00 | -6.44 | 0.14 |
|  |  | Aleksandar Vučić | Serbian Progressive Party | 5.00 | -2.10 | 0.28 |
| South Korea | P | Ahn Cheol-soo | People's Party | 4.40 | -1.60 | 0.14 |
|  |  | Hong Jun-pyo | Liberty Korea Party | 5.20 | -4.60 | 0.22 |
|  |  | Moon Jae-in | Democratic Party | 3.80 | 0.60 | 0.18 |
|  |  | Sim Sang-jung | Justice Party | 3.40 | 1.20 | 0.10 |
|  |  | Yoo Seong-min | Bareun Party | 4.60 | -1.60 | 0.06 |
| Spain | L | Pablo Iglesias | Unidos Podemos | 4.92 | -1.81 | 0.22 |
|  |  | Mariano Rajoy | Partido Popular | 4.08 | 0.06 | 0.26 |
|  |  | Albert Rivera | Ciudadanos | 4.62 | -1.75 | 0.20 |
|  |  | Pedro Sánchez | Partido Socialista Obrero Español | 4.54 | -1.63 | 0.12 |
| The Bahamas | L | Perry Christie | Progressive Liberal Party | 5.33 | -3.58 | 0.21 |
|  |  | Branville McCartney | Democratic National Alliance | 4.00 | -0.22 | 0.25 |
|  |  | Hubert Minnis | Free National Movement | 5.33 | -3.67 | 0.16 |
| The Netherlands | L | Lodewijk Asscher | Labour Party | 3.22 | 2.00 | 0.12 |
|  |  | Jesse Klaver | GroenLinks | 2.64 | 4.00 | 0.12 |
|  |  | Alexander Pechtold | Democrats 66 | 3.08 | 3.33 | 0.16 |
|  |  | Emile Roemer | Socialist Party | 3.95 | -0.17 | 0.14 |
|  |  | Mark Rutte | People's Party for Freedom and Democracy | 3.52 | 1.36 | 0.20 |
|  |  | Gert-Jan Segers | Christian Union | 2.68 | 4.29 | 0.15 |
|  |  | Marianne Thieme | Party for the Animals | 3.36 | 1.75 | 0.20 |
|  |  | Sybrand van Haersma Buma | Christian Democratic Appeal | 4.13 | -0.88 | 0.15 |
|  |  | Geert Wilders | Party for Freedom | 6.46 | -7.28 | 0.13 |
| USA | P | Hillary Clinton | Democratic Party | 4.35 | -0.78 | 0.20 |
|  |  | Gary Johnson | Libertarian Party | 3.71 | 1.15 | 0.15 |
|  |  | Jill Stein | Green Party | 4.40 | -0.97 | 0.18 |
|  |  | Donald Trump | Republican Party | 6.24 | -6.73 | 0.17 |
| Uzbekistan | P | Khatamjan Ketmanov | People's Democratic Party | 3.25 | 2.80 | 0.27 |
|  |  | Shavkat Mirziyoyev | Liberal Democratic Party | 1.80 | 6.67 | 0.18 |
|  |  | Sarvar Otamuradov | Uzbekistan National Revival Democratic Party | 3.25 | 2.50 | 0.29 |
|  |  | Narimon Urmanov | Justice Social Democratic Party | 3.50 | 2.00 | 0.32 |
| Zambia | P | Hakainde Hichilema | United Party for National Development | 4.50 | -2.75 | 0.23 |
|  |  | Wynter Kabimba | Rainbow Party | 3.00 | 0.33 | 0.31 |
|  |  | Tilyenji Chanda Kaunda | United National Independence Party | 3.00 | -0.33 | 0.25 |
|  |  | Edgar Chagwa Lungu | Patriotic Front | 4.50 | -0.75 | 0.25 |
|  |  | Edith Zewelani Nawakwi | Forum for Democracy and Development | 2.50 | 1.50 | 0.28 |
|  |  | Peter Chazya Sinkamba | Green Party | 2.50 | 1.00 | 0.31 |

Note: Includes only elections for which at least 5 experts opinions were gathered and with no missing values on variables used in models.

a Type of election: L 'Legislative', P 'Presidential'.

b Tone of the campaign, adjusted variable (used in the analyses). Varies between 1 'very positive' and 7 'very negative'.

c Tone of the campaign, original unadjusted variable (used only in robustness checks). Varies between -10 'very negative' and 10 'very positive'.

d Degree of consistency between experts for each candidate. The score is based on the original unadjusted measure of tone, and is computed as the standard deviation of all expert scores for a given candidate divided by the variable range (20). The score varies between 0 'perfect consistency' and 1 'perfect inconsistency', which means that the lower the score the higher the consensus among experts about the campaign tone of that specific candidate.

# Appendix B

Robustness checks – candidate models

**Table B1**. Determinants of negativity (unadjusted dependent variable)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |
|  | **M1** |  |  | **M2** |  |  |
|  | Coef | Sig | Se | Coef | Sig | Se |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Incumbent | 2.46 | \*\*\* | (0.66) | 2.48 | \*\*\* | (0.66) |
| Success | -0.02 |  | (0.01) | -0.02 |  | (0.01) |
| Extremism | -1.55 | \*\*\* | (0.30) | -1.56 | \*\*\* | (0.30) |
| Left-right | -0.35 | \*\* | (0.13) | -0.35 | \*\* | (0.13) |
| Female | 0.05 |  | (0.58) | 0.02 |  | (0.58) |
|  | -0.07 |  | (0.52) | -1.32 |  | (1.37) |
| Electoral system: PR |  |  |  |  |  |  |
| Effective number of candidates | 0.06 |  | (0.12) | 0.09 |  | (0.12) |
| Election competitiveness | 0.19 |  | (0.26) | -0.10 |  | (0.40) |
| Presidential election | 0.87 |  | (0.58) | 1.11 | † | (0.63) |
| OECD | 0.56 |  | (0.61) | 0.43 |  | (0.63) |
| Negativity of whole campaign | -1.09 | \*\*\* | (0.27) | -1.00 | \*\*\* | (0.29) |
|  |  |  |  |  |  |  |
| PR \* Competitiveness |  |  |  | 0.55 |  | (0.56) |
|  |  |  |  |  |  |  |
| Intercept | 4.97 | \*\* | (1.78) | 4.78 | \*\* | (1.78) |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| N(candidates) | 172 |  |  | 172 |  |  |
| N(elections) | 35 |  |  | 35 |  |  |
| R2 | 0.37 |  |  | 0.37 |  |  |
|  |  |  |  |  |  |  |

Note: All models are random-effect hierarchical linear regressions (HLM) where candidates are nested within elections. Models run only on elections evaluated by 5 experts or more. Dependent variable is the tone of the candidates campaign (original unadjusted measure), and varies between -10 'very negative' and 10 'very positive'.

\*\*\* p<0.001, \*\* p<0.01, \* p<0.05, † p<0.1.

**Table B2**. Determinants of negativity (controlling for expert profile)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |
|  | **M1** |  |  | **M2** |  |  |
|  | Coef | Sig | Se | Coef | Sig | Se |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Incumbent | -0.87 | \*\*\* | (0.24) | -0.88 | \*\*\* | (0.24) |
| Success | 0.01 | † | (0.01) | 0.01 | † | (0.01) |
| Extremism | 0.54 | \*\*\* | (0.11) | 0.54 | \*\*\* | (0.11) |
| Left-right | 0.11 | \* | (0.05) | 0.11 | \* | (0.05) |
| Female | 0.08 |  | (0.21) | 0.08 |  | (0.21) |
|  |  |  |  |  |  |  |
| Electoral system: PR | -0.02 |  | (0.22) | 0.47 |  | (0.58) |
| Effective number of candidates | 0.03 |  | (0.06) | 0.00 |  | (0.07) |
| Election competitiveness | -0.13 |  | (0.11) | -0.01 |  | (0.17) |
| Presidential election | -0.39 | † | (0.22) | -0.46 | \* | (0.23) |
| OECD | -0.26 |  | (0.26) | -0.16 |  | (0.28) |
| Negativity of whole campaign | 0.34 | \*\*\* | (0.10) | 0.31 | \*\* | (0.11) |
|  |  |  |  |  |  |  |
| PR \* Competitiveness |  |  |  | -0.20 |  | (0.22) |
|  |  |  |  |  |  |  |
| Average expert familiarity a | -0.03 |  | (0.18) | -0.07 |  | (0.18) |
| Average survey simplicity b | 0.13 |  | (0.14) | 0.11 |  | (0.14) |
| Average expert left-right c | -0.06 |  | (0.11) | -0.04 |  | (0.11) |
| Percentage female experts | -0.27 |  | (0.54) | -0.09 |  | (0.57) |
|  |  |  |  |  |  |  |
| Intercept | 2.37 | † | (1.39) | 2.62 | † | (1.42) |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| N(candidates) | 172 |  |  | 172 |  |  |
| N(elections) | 35 |  |  | 35 |  |  |
| R2 | 0.36 |  |  | 0.36 |  |  |
|  |  |  |  |  |  |  |

Note: All models are random-effect hierarchical linear regressions (HLM) where candidates are nested within elections. Models run only on elections evaluated by 5 experts or more. Dependent variable is the tone of the candidates campaign, and varies between 1 'very positive' and 7 'very negative'.

a Average score for variable measuring how familiar experts are with elections in the country surveyed (self-assessment); ranges between 0 ’very low’ and 10 ‘very high’.

b Average score for variable measuring how easy or difficult it was for experts to answer questions in the survey (self-assessment); ranges between 0 ‘very difficult’ and 10 ‘very easy’.

c Average ideology of experts, based on self-assessed position of left-right scale (0–10).

\*\*\* p<0.001, \*\* p<0.01, \* p<0.05, † p<0.1.

**Table B3**. Determinants of negativity (controlling for geographical region and civil rights index)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |
|  | **M1** |  |  | **M2** |  |  |
|  | Coef | Sig | Se | Coef | Sig | Se |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Incumbent | -0.83 | \*\*\* | (0.24) | -0.84 | \*\*\* | (0.24) |
| Success | 0.01 |  | (0.01) | 0.01 |  | (0.01) |
| Extremism | 0.59 | \*\*\* | (0.11) | 0.59 | \*\*\* | (0.11) |
| Left-right | 0.10 | \* | (0.05) | 0.10 | \* | (0.05) |
| Female | 0.02 |  | (0.21) | 0.04 |  | (0.21) |
|  |  |  |  |  |  |  |
| Electoral system: PR | -0.04 |  | (0.24) | 0.22 |  | (0.71) |
| Effective number of candidates | -0.00 |  | (0.05) | -0.01 |  | (0.05) |
| Election competitiveness | -0.14 |  | (0.13) | -0.05 |  | (0.26) |
| Presidential election | -0.29 |  | (0.23) | -0.33 |  | (0.26) |
| Civil Rights | 0.02 | † | (0.01) | 0.02 |  | (0.02) |
| OECD | -0.42 |  | (0.32) | -0.33 |  | (0.40) |
| Negativity of whole campaign | 0.27 | \* | (0.12) | 0.24 | † | (0.14) |
|  |  |  |  |  |  |  |
| PR \* Competitiveness |  |  |  | -0.11 |  | (0.28) |
|  |  |  |  |  |  |  |
| Region a |  |  |  |  |  |  |
| Middle-East and Northern Africa | 0.89 | † | (0.52) | 0.91 | † | (0.54) |
| Sub-Saharan Africa | 0.17 |  | (0.52) | 0.18 |  | (0.54) |
| Latin America & Caribbean | 0.46 |  | (0.55) | 0.49 |  | (0.58) |
| Northern America | 0.75 |  | (0.65) | 0.69 |  | (0.68) |
| Central and Southern Asia | 0.92 |  | (0.74) | 0.91 |  | (0.77) |
| Easters and South-Eastern Asia | 0.37 |  | (0.39) | 0.46 |  | (0.47) |
| Eastern Europe | 0.21 |  | (0.47) | 0.29 |  | (0.54) |
| Southern Europe | 0.44 |  | (0.47) | 0.50 |  | (0.52) |
|  |  |  |  |  |  |  |
| Intercept | 1.68 | \* | (0.82) | 1.74 | \* | (0.87) |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| N(candidates) | 172 |  |  | 172 |  |  |
| N(elections) | 35 |  |  | 35 |  |  |
| R2 | 0.40 |  |  | 0.40 |  |  |
|  |  |  |  |  |  |  |

Note: All models are random-effect hierarchical linear regressions (HLM) where candidates are nested within elections. Models run only on elections evaluated by 5 experts or more. Dependent variable is the tone of the candidates campaign, and varies between 1 'very positive' and 7 'very negative'.

a Reference category is 'Western and Northern Europe' (includes Australia).

\*\*\* p<0.001, \*\* p<0.01, \* p<0.05, † p<0.1

**Table B4**. Determinants of negativity (alternative measures of left-right and extremism)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |  |
|  | **M1** |  |  | **M2** |  |  | **M3** |  |  |
|  | Coef | Sig | Se | Coef | Sig | Se | Coef | Sig | Se |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| CHES: left-right a | 0.13 | † | (0.07) |  |  |  |  |  |  |
| CHES: extremism a | 0.28 | † | (0.16) |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| B&L: left-right b |  |  |  | 0.05 |  | (0.03) |  |  |  |
| B&L: extremism b |  |  |  | 0.11 | † | (0.07) |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| MPD: left-right c |  |  |  |  |  |  | 0.03 | \* | (0.01) |
| MPD: extremism c |  |  |  |  |  |  | 0.03 | † | (0.01) |
|  |  |  |  |  |  |  |  |  |  |
| Incumbent | -1.08 | \* | (0.50) | -0.83 | \* | (0.42) | -0.66 | † | (0.39) |
| Success | 0.00 |  | (0.02) | 0.01 |  | (0.01) | -0.00 |  | (0.01) |
| Female | 0.48 |  | (0.43) | -0.14 |  | (0.39) | -0.23 |  | (0.35) |
|  |  |  |  |  |  |  |  |  |  |
| Electoral system: PR | 0.20 |  | (0.48) | 0.09 |  | (0.27) | 0.04 |  | (0.24) |
| Effective number of candidates | -0.12 |  | (0.22) | -0.03 |  | (0.11) | -0.06 |  | (0.10) |
| Election competitiveness | 0.38 |  | (0.56) | -0.14 |  | (0.16) | 0.00 |  | (0.15) |
| Presidential election | -0.82 | † | (0.50) | 0.20 |  | (0.39) | 0.17 |  | (0.36) |
| OECD | -0.54 |  | (0.60) | -0.17 |  | (0.30) | -0.37 |  | (0.28) |
| Negativity of whole campaign | 0.50 |  | (0.72) | 0.50 | \*\* | (0.19) | 0.46 | \*\* | (0.16) |
|  |  |  |  |  |  |  |  |  |  |
| Intercept | 1.32 |  | (5.95) | 1.05 |  | (1.17) | 2.21 | \* | (1.11) |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| N(candidates) | 45 |  |  | 55 |  |  | 78 |  |  |
| N(elections) | 9 |  |  | 17 |  |  | 23 |  |  |
| R2 | 0.42 |  |  | 0.46 |  |  | 0.35 |  |  |
|  |  |  |  |  |  |  |  |  |  |

Note: All models are random-effect hierarchical linear regressions (HLM) where candidates are nested within elections. Models run only on elections evaluated by 5 experts or more. Dependent variable is the tone of the candidates campaign, and varies between 1 'very positive' and 7 'very negative'.

a Chapel Hill Expert Survey (CHES, 1999-2014 dataset) measure. Varies between 0 ‘Extreme Left’ and 10 ‘Extreme Right’. Extremism is computed by folding the variable on itself.

b Benoit and Laver (2007) measure. Varies between 1 ‘Left’ and 20 ’Right’. Extremism is computed by folding the variable on itself.

c Manifesto Project Database (MPD, 2016 dataset) measure. Composite index based on coding of quasi-sentences in party manifestos for 13 categories, where high negative scores refer to left positions, and high positive scores to right positions. Extremism is computed by folding the variable on itself (absolute value).

\*\*\* p<0.001, \*\* p<0.01, \* p<0.05, † p<0.1.

**Table B5**. Determinants of negativity (extremism as left-right squared)

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
|  | **M1** |  |  |
|  | Coef | Sig | Se |
|  |  |  |  |
|  |  |  |  |
| Incumbent | -0.86 | \*\*\* | (0.24) |
| Success | 0.01 | † | (0.01) |
| Extremism (left-right squared) | 0.14 | \*\*\* | (0.03) |
| Left-right | -1.03 | \*\*\* | (0.23) |
| Female | 0.03 |  | (0.21) |
|  |  |  |  |
| Electoral system: PR | 0.03 |  | (0.17) |
| Effective number of candidates | 0.00 |  | (0.04) |
| Election competitiveness | -0.11 |  | (0.09) |
| Presidential election | -0.37 | † | (0.19) |
| OECD | -0.17 |  | (0.20) |
| Negativity of whole campaign | 0.38 | \*\*\* | (0.09) |
|  |  |  |  |
| Intercept | 4.55 | \*\*\* | (0.73) |
|  |  |  |  |
|  |  |  |  |
| N(candidates) | 172 |  |  |
| N(elections) | 35 |  |  |
| R2 | 0.36 |  |  |
|  |  |  |  |

Note: All models are random-effect hierarchical linear regressions (HLM) where candidates are nested within elections. Models run only on elections evaluated by 5 experts or more. Dependent variable is the tone of the candidates campaign, and varies between 1 'very positive' and 7 'very negative'.

\*\*\* p<0.001, \*\* p<0.01, \* p<0.05, † p<0.1.

**Table B6**. Determinants of negativity (with fine-grained measure of electoral systems)

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
|  | **M1** |  |  |
|  | Coef | Sig | Se |
|  |  |  |  |
|  |  |  |  |
| Incumbent | -0.87 | \*\*\* | (0.24) |
| Success | 0.01 | † | (0.01) |
| Extremism | 0.53 | \*\*\* | (0.11) |
| Left-right | 0.11 | \* | (0.05) |
| Female | 0.05 |  | (0.21) |
|  |  |  |  |
| Electoral system a |  |  |  |
| Single Member Plurality (SMP) | 0.02 |  | (0.29) |
| Majority, Two Round System (2RS) | -0.11 |  | (0.37) |
| Majority, Alternative Vote (AV) | 0.05 |  | (0.57) |
| Parallel, Mixed Member Majoritarian (MMM) | 0.04 |  | (0.22) |
| PR List Open | 0.04 |  | (0.36) |
| Other (SNTV, Limited Vote, Borda) | -0.06 |  | (0.68) |
|  |  |  |  |
| Effective number of candidates | 0.01 |  | (0.07) |
| Election competitiveness | -0.12 |  | (0.09) |
| Presidential election | -0.34 |  | (0.22) |
| OECD | -0.21 |  | (0.23) |
| Negativity of whole campaign | 0.37 | \*\*\* | (0.10) |
|  |  |  |  |
| Intercept | 2.33 | \*\*\* | (0.69) |
|  |  |  |  |
|  |  |  |  |
| N(candidates) | 172 |  |  |
| N(elections) | 35 |  |  |
| R2 | 0.35 |  |  |
|  |  |  |  |

Note: The model is a random-effect hierarchical linear regression (HLM) where candidates are nested within elections. The model is run only on elections evaluated by 5 experts or more. Dependent variable is the tone of the candidates campaign, and varies between 1 'very positive' and 7 'very negative'.

a Reference category is 'PR List Closed'.

\*\*\* p<0.001, \*\* p<0.01, \* p<0.05, † p<0.1.

# Appendix C

Robustness checks – dyad models

**Table C1**. Target of attacks: candidate dyads (controlling for expert profile)

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
|  | **M1** |  |  |
|  | Direct effects | | |
|  | Coef | Sig | Se |
|  |  |  |  |
|  |  |  |  |
| Target is incumbent | 11.46 | \*\*\* | (1.84) |
| Target is ahead in score a | 0.31 | \*\*\* | (0.03) |
| Ideological distance sponsor-target | 0.51 | \* | (0.24) |
| Attacks received from target | 0.57 | \*\*\* | (0.03) |
| Genders: M attacks F b | -0.47 |  | (1.76) |
| Genders: F attacks M b | 0.12 |  | (1.74) |
| Genders: F attacks F b | -0.99 |  | (2.78) |
|  |  |  |  |
| Electoral system: PR | -0.58 |  | (1.57) |
| Effective number of candidates | 0.30 |  | (0.46) |
| Election competitiveness | 0.04 |  | (0.85) |
| Presidential election | 3.21 | \* | (1.58) |
| OECD | 2.09 |  | (1.86) |
| Negativity of whole campaign | 1.67 | \* | (0.72) |
|  |  |  |  |
| Average expert familiarity c | 0.39 |  | (1.13) |
| Average survey simplicity d | 1.32 |  | (0.98) |
| Average expert left-right e | -0.64 |  | (0.75) |
| Percentage female experts | -0.10 |  | (4.17) |
|  |  |  |  |
| Intercept | -20.41 | \* | (9.41) |
|  |  |  |  |
|  |  |  |  |
| N(dyads) | 811 |  |  |
| N(elections) | 35 |  |  |
| R2 | 0.51 |  |  |
|  |  |  |  |

Note: All models are random-effect hierarchical linear regressions (HLM) where dyads of candidates are nested within elections. Models run only on elections evaluated by 5 experts or more. Dependent variable measures the intensity of attacks from the sponsor to the target in the dyad, and varies between 0 ‘target not attacked’ and 100 ‘target strongly attacked’.

a The variable is computed as the absolute score of the target minus the absolute score of the sponsor; thus, a positive score means that the target performed better in the election (he or she is ahead in the final tally) when compared to the sponsor of the attack.

b Reference category: M attacks M (M=Male candidate, F=Female candidate).

c Average score for variable measuring how familiar experts are with elections in the country surveyed (self-assessment); ranges between 0 ’very low’ and 10 ‘very high’.

d Average score for variable measuring how easy or difficult it was for experts to answer questions in the survey (self-assessment); ranges between 0 ‘very difficult’ and 10 ‘very easy’.

e Average ideology of experts, based on self-assessed position of left-right scale (0–10).

\*\*\* p<0.001, \*\* p<0.01, \* p<0.05, † p<0.1.

**Table C2**. Target of attacks: candidate dyads (controlling for geographical region and civil rights index)

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
|  | **M1** |  |  |
|  | Direct effects | | |
|  | Coef | Sig | Se |
|  |  |  |  |
|  |  |  |  |
| Target is incumbent | 11.50 | \*\*\* | (1.86) |
| Target is ahead in score a | 0.31 | \*\*\* | (0.03) |
| Ideological distance sponsor-target | 0.59 | \* | (0.24) |
| Attacks received from target | 0.57 | \*\*\* | (0.03) |
| Genders: M attacks F b | -0.27 |  | (1.80) |
| Genders: F attacks M b | 0.32 |  | (1.79) |
| Genders: F attacks F b | -0.78 |  | (2.81) |
|  |  |  |  |
| Electoral system: PR | 1.57 |  | (1.80) |
| Effective number of candidates | -0.63 | † | (0.37) |
| Election competitiveness | 0.77 |  | (0.98) |
| Presidential election | 3.43 | † | (1.79) |
| Civil Rights | 0.09 |  | (0.10) |
| OECD | 1.18 |  | (2.23) |
| Negativity of whole campaign | 2.09 | \* | (0.95) |
|  |  |  |  |
| Region c |  |  |  |
| Middle-East and North Africa | -0.45 |  | (3.73) |
| Sub-Saharan Africa | -0.90 |  | (3.84) |
| Latin America & Caribbean | -1.44 |  | (4.41) |
| Northern America | -5.71 |  | (5.51) |
| Central and Southern Asia | 3.23 |  | (5.89) |
| Easters and South-Eastern Asia | 3.18 |  | (2.83) |
| Eastern Europe | -0.43 |  | (3.33) |
| Southern Europe | -0.45 |  | (3.75) |
|  |  |  |  |
| Intercept | -16.78 | \*\* | (6.35) |
|  |  |  |  |
|  |  |  |  |
| N(dyads) | 811 |  |  |
| N(elections) | 35 |  |  |
| R2 | 0.51 |  |  |
|  |  |  |  |

Note: All models are random-effect hierarchical linear regressions (HLM) where dyads of candidates are nested within elections. Models run only on elections evaluated by 5 experts or more. Dependent variable measures the intensity of attacks from the sponsor to the target in the dyad, and varies between 0 ‘target not attacked’ and 100 ‘target strongly attacked’.

a The variable is computed as the absolute score of the target minus the absolute score of the sponsor; thus, a positive score means that the target performed better in the election (he or she is ahead in the final tally) when compared to the sponsor of the attack.

b Reference category: M attacks M (M=Male candidate, F=Female candidate).

c Reference category is 'Western and Northern Europe' (includes Australia).

\*\*\* p<0.001, \*\* p<0.01, \* p<0.05, † p<0.1.

**Table C3**. Target of attacks: candidate dyads (with fine-grained measure of electoral systems)

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
|  | **M1** |  |  |
|  | Direct effects | | |
|  | Coef | Sig | Se |
|  |  |  |  |
|  |  |  |  |
| Target is incumbent | 11.30 | \*\*\* | (1.84) |
| Target is ahead in score a | 0.31 | \*\*\* | (0.03) |
| Ideological distance sponsor-target | 0.53 | \* | (0.23) |
| Attacks received from target | 0.57 | \*\*\* | (0.03) |
| Genders: M attacks F b | -0.85 |  | (1.76) |
| Genders: F attacks M b | -0.27 |  | (1.74) |
| Genders: F attacks F b | -1.57 |  | (2.85) |
|  |  |  |  |
| Electoral system c |  |  |  |
| Single Member Plurality (SMP) | -0.80 |  | (2.34) |
| Majority, Two Round System (2RS) | -1.26 |  | (2.85) |
| Majority, Alternative Vote (AV) | -0.56 |  | (4.80) |
| Parallel, Mixed Member Majoritarian (MMM) | -1.76 |  | (1.49) |
| PR List Open | -2.73 |  | (2.19) |
| Other (SNTV, Limited Vote, Borda) | -1.78 |  | (4.56) |
|  |  |  |  |
| Effective number of candidates | -0.11 |  | (0.49) |
| Election competitiveness | 0.54 |  | (0.75) |
| Presidential election | 3.08 | \* | (1.57) |
| OECD | 2.97 | † | (1.71) |
| Negativity of whole campaign | 1.83 | \*\* | (0.69) |
|  |  |  |  |
| Intercept | -11.48 | \* | (4.86) |
|  |  |  |  |
|  |  |  |  |
| N(dyads) | 811 |  |  |
| N(elections) | 35 |  |  |
| R2 | 0.51 |  |  |
|  |  |  |  |

Note: All models are random-effect hierarchical linear regressions (HLM) where dyads of candidates are nested within elections. Models run only on elections evaluated by 5 experts or more. Dependent variable measures the intensity of attacks from the sponsor to the target in the dyad, and varies between 0 ‘target not attacked’ and 100 ‘target strongly attacked’.

a The variable is computed as the absolute score of the target minus the absolute score of the sponsor; thus, a positive score means that the target performed better in the election (he or she is ahead in the final tally) when compared to the sponsor of the attack.

b Reference category: M attacks M (M=Male candidate, F=Female candidate).

c Reference category is 'PR List Closed'.

\*\*\* p<0.001, \*\* p<0.01, \* p<0.05, † p<0.1.

# Appendix D

Left-right position of candidates

Several classifications of political parties worldwide according to a left-right scale exist, but none covers the full scope of our dataset. We thus relied on information provided by the Wikipedia pages for each political party, based on the affiliation of the competing candidates. Although not ideal, due to its open source nature, information diffused through this channel has been shown to provide quality factual information it comes to electoral results and party competition (Brown 2011; Cuzán 2015). Based on the existing information, we created a scale ranging from 1 ‘far left’ to 7 ‘far right’.

External validity of this variable can be assessed by comparing it with other existing measures. We compared our variable with:

* the measure in the Chapel Hill Expert Survey (CHES; Polk et al. 2017). The integrated 1999-2014 dataset covers 31 countries, mostly European. Dataset and codebook are available at http://chesdata.eu;
* the measure proposed by Benoit and Laver (2007, henceforth B&L). The dataset covers parties competing in 47 countries; dataset and codebook are available at http://www.tcd.ie/Political\_Science/ppmd;
* the measure in the Manifesto Project Dataset (MPD; Volkens et al. 2016), which covers parties in 56 countries, mostly OECD and Central/Eastern European democracies; dataset and codebook are available at https://manifestoproject.wzb.eu.

For the three datasets, we used the most recent information available for each party. For recent coalitions, if value for the coalition was not existent in the dataset, we calculated the average score for each party in the coalition (e.g., for the Alliance of Liberals and Democrats in Romania we used the average score for the Liberal Reformist Party and the Conservative Party, who formed the coalition, available in the CHES data).

Table D1 below has the correlations between the three measures and our variable, whereas table D2 presents the scores on the four measures for each candidate/party in our dataset.

**Table D1**. The four measures of left-right party positioning, correlations

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Our**  **measure** | **CHES** | **B&L** |
| **CHES** | 0.88\*\*\*  (45) | . |  |
| **B&L** | 0.89\*\*\*  (55) | 0.97\*\*\*  (29) | . |
| **MPD** | 0.64\*\*\*  (78) | 0.69\*\*\*  (38) | 0.72\*\*\*  (50) |

Note: Coefficients are Pearson’s R. Number of observations reported below each coefficient, in parentheses.

\*\*\* p<0.001, \*\* p<0.01, \* p<0.05, † p<0.1.

**Table D2**. Left-right measures, per candidate

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  | **Left-right** | | | |
| **Country** | **Candidate** | **Party** | **Our measure**  **a** | **CHES**  **b** | **B&L**  **c** | **MPD**  **d** |
| Algeria | Djamel Ould Abbes | Front de Libération Nationale | CL |  |  |  |
|  | Abdelmalek Bouchafa | Front des Forces Socialistes | CL |  |  |  |
|  | Louisa Hanoune | Parti des Travailleurs | FL |  |  |  |
|  | Ahmed Ouyahia | Rassemblement National Démocratique | C |  |  |  |
| Armenia | Artur Baghdasaryan | Armenian Renaissance | C |  |  |  |
|  | Hrant Markarian | Armenian Revolutionary Federation | L |  |  | -7.34 |
|  | Edmon Marukyan | Way out alliance | C |  |  |  |
|  | Serzh Sargsyan | Republican Party of Armenia | R |  |  | -3.82 |
|  | Levon Ter-Petrosyan | Congress-People’s Party Alliance | CR |  |  |  |
|  | Gagik Tsarukyan | Tsarukyan alliance | CR |  |  | -4.43 |
| Australia | Richard Di Natale | The Greens | L |  | 3.93 | -33.98 |
|  | Bill Shorten | Australian Labor Party | CL |  | 9.87 | -17.11 |
|  | Malcolm Turnbull | Liberal Party of Australia / Nationals | CR |  | 15.43 | 9.51 |
|  | Nick Xenophon | Nick Xenophon Team | C |  |  |  |
| Austria | Norbert Hofer | Freedom Party of Austria | FR | 8.70 | 17.38 | -1.30 |
|  | Alexander Van der Bellen | Independent candidate / The Greens | L | 3.00 | 5.44 | -9.47 |
| Belarus | Sergei Gaidukevich | Liberal Democratic Party | R |  | 13.25 |  |
|  | Tatsyana Holubeva | Communist Party of Belarus | FL |  | 1.89 | -19.67 |
|  | Anatoly Lebedko | United Civic Party of Belarus | CR |  | 17.11 |  |
|  | Vasil Zadnyaprany | Republican Party of Labour and Justice | CL |  |  |  |
| Bulgaria | Tatyana Doncheva | Movement 21 - National Mvt for Stab. and Progress | C | 5.82 | 11.55 |  |
|  | Ivailo Kalfin | Alternative for Bulgarian Revival | CL | 3.47 |  |  |
|  | Krasimir Karakachanov | United Patriots | FR | 6.14 | 13.40 | -7.58 |
|  | Rumen Radev | Independent candidate / Bulgarian Socialist Party | L | 3.69 | 6.09 | -38.11 |
|  | Traycho Traykov | Reformist Bloc | CR | 6.96 | 14.11 |  |
|  | Tsetska Tsacheva | GERB | CR | 6.50 |  | -0.97 |
|  | Boyko Borisov | GERB | CR | 6.50 |  | -0.97 |
|  | Mustafa Karadayi | Movement for Rights and Freedoms | CL | 4.69 | 9.09 | -23.90 |
|  | Veselin Mareshki | Volya | R |  |  |  |
|  | Petar Moskov | Reformist Bloc | CR | 6.96 | 14.11 |  |
|  | Korneliya Ninova | Bulgarian Socialist Party | L | 3.69 | 6.09 | -38.11 |
|  | Valeri Simeonov | United Patriots | FR | 6.14 | 13.40 | -7.58 |
| Côte d'Ivoire | Henri Konan Bédié | Parti démocratique de Côte d’Ivoire | R |  |  |  |
|  | Pascal Affi N'Guessan | Front Populaire Ivoirien | L |  |  |  |
|  | Alassane Ouattara | Rassemblement des Républicains | CR |  |  |  |
| Croatia | Zoran Milanović | Social Democratic Party of Croatia | CL | 3.56 | 7.17 | -9.27 |
|  | Božo Petrov | Bridge of Independent Lists | CR |  |  | 8.28 |
|  | Andrej Plenković | Croatian Democratic Union | R | 7.33 | 14.50 | -6.37 |
|  | Ivan Vilibor Sinčić | Human Shield | C |  |  | -41.01 |
| Ecuador | Dalo Bucaram | Fuerza Ecuador | CR |  |  |  |
|  | Guillermo Lasso | Creando Oportunidades | CR |  |  |  |
|  | Paco Moncayo | Acuerdo Nacional por el Cambio | L |  |  |  |
|  | Lenín Moreno | Alianza PAIS | L |  |  |  |
|  | Cynthia Viteri | Partido Social Cristiano | CR |  |  |  |
| France | François Fillon | Les Républicains | R | 7.67 |  | -2.33 |
|  | Benoît Hamon | Parti Socialiste | L | 3.83 |  | -32.71 |
|  | Marine Le Pen | Front National | FR | 9.64 |  | 8.08 |
|  | Emmanuel Macron | En Marche | C | 5.91 |  |  |
|  | Jean-Luc Mélenchon | La France Insoumise | FL |  |  |  |
| Georgia | Irakli Alasania | Free Democrats | CL |  |  |  |
|  | Davit Bakradze | United National Movement | CR |  |  | -33.98 |
|  | Paata Burchuladze | State for a People | CR |  |  |  |
|  | Nino Burjanadze | Democratic Movement – United Georgia | CR |  |  |  |
|  | Irma Inashvili | Alliance of Patriots of Georgia | R |  |  |  |
|  | Giorgi Kvirikashvili | Georgian Dream – Democratic Georgia | CL |  |  | -19.02 |
|  | Shalva Natelashvili | Georgian Labour Party | CL |  |  | -5.80 |
| Ghana | Nana Akufo-Addo | New Patriotic Party | CR |  |  |  |
|  | Ivor Greenstreet | Convention People's Party | L |  |  |  |
|  | John Dramani Mahama | National Democratic Congress | CL |  |  |  |
|  | Paa Kwesi Nduom | Progressive People's Party | CL |  |  |  |
| Hong Kong | Vincent Fang | Liberal Party | CR |  |  |  |
|  | Regina Ip | New People's Party | CR |  |  |  |
|  | Emily Lau | Democratic Party | CL |  |  |  |
|  | Nathan Law | Demosistō | L |  |  |  |
|  | Starry Lee | Democr. All. for the Betterment and Progress of HK | CR |  |  |  |
|  | Alan Leong | Civic Party | CL |  |  |  |
|  | Andrew Leung | Business and Professionals Alliance for Hong Kong | CR |  |  |  |
|  | Lam Suk-yee | Hong Kong Federation of Trade Unions | L |  |  |  |
|  | Suzanne Wu | Labour Party | CL |  |  |  |
|  | Erica Yuen | People Power–League of Social Democrats | FL |  |  |  |
| Iceland | Davíð Oddsson | Independence Party | R |  | 16.25 | 13.45 |
|  | Bjarni Benediktsson | Independence Party | R |  | 16.25 | 13.45 |
|  | Oddný Guðbjörg Harðardóttir | Social Democratic Alliance | CL |  | 8.75 | -11.02 |
|  | Katrín Jakobsdóttir | Left-Green Movement | L |  | 3.25 | -32.71 |
|  | Benedikt Jóhannesson | Viðreisn | CR |  |  |  |
|  | Sigurður Ingi Jóhannsson | Progressive Party | CR |  | 12.75 | -17.09 |
|  | Birgitta Jónsdóttir | Pirate Party | L |  |  | -40.00 |
|  | Óttarr Proppé | Bright Future | C |  |  | -6.63 |
| Iran | Mostafa Hashemitaba | Executives of Construction Party | CR |  |  |  |
|  | Mostafa Mir-Salim | Islamic Coalition Party | R |  |  |  |
|  | Ebrahim Raisi | Combatant Clergy Association | R |  |  |  |
|  | Hassan Rouhani | Moderation and Development Party | C |  |  |  |
| Japan | Shinzō Abe | Liberal Democratic Party | R |  | 15.81 | -2.04 |
|  | Yukio Edano | Democratic Party of Japan | C |  | 11.59 | -28.21 |
|  | Kazuo Shii | Japanese Communist Party | L |  | 3.10 | -37.31 |
|  | Natsuo Yamaguchi | Komeito | CR |  | 12.22 | -21.80 |
| Lithuania | Linas Balsys | Lithuanian Green Party | C |  |  |  |
|  | Algirdas Butkevičius | Social Democratic Party of Lithuania | CL | 3.20 | 6.68 | -10.41 |
|  | Ramūnas Karbauskis | Lithuanian Peasant and Greens Union | C | 3.87 | 7.21 | -11.97 |
|  | Gabrielius Landsbergis | Homeland Union – Lithuanian Christian Democrats | R | 7.64 | 14.47 | 14.35 |
|  | Valentinas Mazuronis | Labour Party | CL | 4.40 |  | -24.02 |
|  | Rolandas Paksas | Party Order and Justice | FR | 6.62 | 11.89 | 2.60 |
|  | Remigijus Šimašius | Liberal Movement | CR | 7.33 | 15.74 | 6.78 |
|  | Valdemar Tomaševski | Electoral Action of Poles in Lithuania | CR | 5.46 |  | 5.64 |
|  | Jonas Varkala | The Way of Courage | FR | 6.88 |  | -5.53 |
| Macedonia | Ali Ahmeti | Democratic Union for Integration | CR |  | 9.45 | -11.68 |
|  | Nikola Gruevski | VMRO-DPMNE | R |  | 15.18 | -18.99 |
|  | Bilall Kasami | Lëvizja Besa | R |  |  |  |
|  | Menduh Thaçi | Democratic Party of Albanians | R |  | 14.64 | -5.06 |
|  | Zoran Zaev | Social Democratic Union of Macedonia | CL |  | 6.45 | -18.97 |
| Moldova | Igor Dodon | Party of Socialists of the Republic of Moldova | L |  |  | -10.46 |
|  | Mihai Ghimpu | Liberal Party | CR |  |  | 6.94 |
|  | Iurie Leancă | European People's Party | CR |  |  |  |
|  | Maia Sandu | Action and Solidarity | CR |  |  |  |
| Mongolia | Nambaryn Enkhbayar | Mongolian People's Revolutionary Party | CL |  |  |  |
|  | Miyeegombyn Enkhbold | Mongolian People's Party | CL |  |  |  |
|  | Zandaakhüügiin Enkhbold | Democratic Party | CR |  |  |  |
| Montenegro | Aleksa Bečić | Democratic Montenegro | C |  |  |  |
|  | Ivan Brajović | Social Democrats of Montenegro | CL |  |  |  |
|  | Milo Đukanović | Democratic Party of Socialists of Montenegro | CL |  |  |  |
|  | Rafet Husović | Bosniak Party | CR |  |  | -2.56 |
|  | Ranko Krivokapić | Social Democratic Party of Montenegro | CL |  |  |  |
|  | Miodrag Lekić | Key Coalition | C |  |  | -10.58 |
|  | Andrija Mandić | Democratic Front | CR |  |  | -9.06 |
| Morocco | Abdelilah Benkirane | Justice and Development Party | R |  |  |  |
|  | Abdelhamid Chabat | Istiqlal Party | CR |  |  |  |
|  | Mohand Laenser | Popular Movement | CR |  |  |  |
|  | Salaheddine Mezouar | National Rally of Independents | CR |  |  |  |
| Nicaragua | Saturnino Cerrato Hodgson | Alianza Liberal Nicaragüense | R |  |  |  |
|  | Daniel Ortega | Frente Sandinista de Liberación Nacional | L |  |  |  |
|  | Maximino Rodríguez | Partido Liberal Constitucionalista | R |  |  |  |
|  | Pedro Reyes Vallejos | Partido Liberal Independiente | CR |  |  |  |
| Romania | Traian Băsescu | Alliance of Liberals and Democrats | CR | 6.10 |  |  |
|  | Nicușor Dan | Save Romania Union | CR |  |  |  |
|  | Liviu Dragnea | Social Democratic Party | CL | 4.12 | 6.78 | -12.91 |
|  | Alina Gorghiu | National Liberal Party | CR | 6.65 | 14.28 | 12.89 |
|  | Hunor Kelemen | Democratic Alliance of Hungarians in Romania | CR | 6.12 | 12.83 | -9.70 |
|  | Călin Popescu-Tăriceanu | Alliance of Liberals and Democrats | CR | 6.10 |  |  |
| Russia | Dmitry Medvedev | United Russia | C |  | 12.42 | 2.79 |
|  | Sergey Mironov | A Just Russia | CL |  | 5.95 | -25.19 |
|  | Vladimir Zhirinovsky | LDPR | FR |  | 13.89 | 13.69 |
|  | Gennady Zyuganov | Communist Party | FL |  | 4.84 | -18.30 |
| Serbia | Saša Janković | Independent candidate | CL |  |  |  |
|  | Vuk Jeremić | Independent candidate | CL |  |  |  |
|  | Boško Obradović | Dveri | FR |  |  |  |
|  | Vojislav Šešelj | Serbian Radical Party | FR |  | 19.00 | 6.68 |
|  | Aleksandar Vučić | Serbian Progressive Party | R |  |  |  |
| South Korea | Ahn Cheol-soo | People's Party | C |  |  |  |
|  | Hong Jun-pyo | Liberty Korea Party | R |  |  |  |
|  | Moon Jae-in | Democratic Party | CL |  |  | -36.54 |
|  | Sim Sang-jung | Justice Party | L |  |  |  |
|  | Yoo Seong-min | Bareun Party | CR |  |  |  |
| Spain | Pablo Iglesias | Unidos Podemos | L | 1.67 |  | -32.95 |
|  | Mariano Rajoy | Partido Popular | R | 7.30 | 16.99 | -4.25 |
|  | Albert Rivera | Ciudadanos | C | 5.56 |  | -16.04 |
|  | Pedro Sánchez | Partido Socialista Obrero Español | CL | 3.80 | 8.20 | -25.56 |
| The Bahamas | Perry Christie | Progressive Liberal Party | CL |  |  |  |
|  | Branville McCartney | Democratic National Alliance | R |  |  |  |
|  | Hubert Minnis | Free National Movement | CR |  |  |  |
| The Netherlands | Lodewijk Asscher | Labour Party | CL | 3.67 | 8.57 | -6.56 |
|  | Jesse Klaver | GroenLinks | CL | 2.33 | 4.95 | -9.58 |
|  | Alexander Pechtold | Democrats 66 | C | 5.56 | 10.38 | -0.78 |
|  | Emile Roemer | Socialist Party | L | 1.00 | 3.10 | -20.93 |
|  | Mark Rutte | People's Party for Freedom and Democracy | CR | 7.89 | 16.33 | 22.63 |
|  | Gert-Jan Segers | Christian Union | CR | 5.44 | 12.19 | 10.20 |
|  | Marianne Thieme | Party for the Animals | L | 2.89 |  | -6.47 |
|  | Sybrand van Haersma Buma | Christian Democratic Appeal | CR | 6.78 | 13.57 | 17.70 |
|  | Geert Wilders | Party for Freedom | FR | 9.25 |  | 15.64 |
| USA | Hillary Clinton | Democratic Party | CL |  | 7.08 | -6.44 |
|  | Gary Johnson | Libertarian Party | C |  |  |  |
|  | Jill Stein | Green Party | L |  |  |  |
|  | Donald Trump | Republican Party | R |  | 16.63 | 27.96 |
| Uzbekistan | Khatamjan Ketmanov | People's Democratic Party | CL |  |  |  |
|  | Shavkat Mirziyoyev | Liberal Democratic Party | CR |  |  |  |
|  | Sarvar Otamuradov | Uzbekistan National Revival Democratic Party | CR |  |  |  |
|  | Narimon Urmanov | Justice Social Democratic Party | CL |  |  |  |
| Zambia | Hakainde Hichilema | United Party for National Development | C |  |  |  |
|  | Wynter Kabimba | Rainbow Party | L |  |  |  |
|  | Tilyenji Chanda Kaunda | United National Independence Party | L |  |  |  |
|  | Edgar Chagwa Lungu | Patriotic Front | L |  |  |  |
|  | Edith Zewelani Nawakwi | Forum for Democracy and Development | CL |  |  |  |
|  | Peter Chazya Sinkamba | Green Party | C |  |  |  |

a FL ‘Far Left’, L ‘Left’, CR ‘Centre Left’, C ‘Centre’, CR ‘Centre Right’, R ‘Right’, FR ‘Far Right’.

b Chapel Hill Expert Survey (CHES, 1999-2014 dataset) measure. Varies between 0 ‘Extreme Left’ and 10 ‘Extreme Right’.

b Benoit and Laver (2007) measure. Varies between 1 ‘Left’ and 20 ’Right’.

c Manifesto Project Database (MPD, 2016 dataset) measure. Composite index based on coding of quasi-sentences in party manifestos for 13 categories, where high negative scores refer to left positions, and high positive scores to right positions.

# Appendix E

Assessing expert biases

Is the way experts evaluate candidates’ negativity influenced by their own profile? The assumption in expert survey is that respondents’ profile is completely independent with their judgment, but this cannot realistically be excluded all the time. We thus ran a series of models at the expert level, in order to check for the magnitude of potential expert profile biases.

The overall profile of experts in the database is reassumed in Table E1, and the composition of each election samples is presented in Table E2. Remember that experts had to evaluate the campaign tone of a series of candidates competing in the election (up to 10, but usually no more than 4-5). Table E3 regresses the evaluation of the first three candidates (A, B and C) on the expert profile; in all models, the dependent variable varies between -10 (a very negative campaign) and 10 (a very positive campaign). The models are also controlled by determinants at the contextual level. We see that overall the experts’ profile influences their evaluations only marginally; we do however find for candidates B and C that the ideology of experts matters, although the coefficient is very small and no significant effect exist for candidate A (the first candidate they had to evaluate, usually a frontrunner). Nonetheless, right-wing experts tend to evaluate the tone of (some) candidates’ campaign as less negative. No other significant or substantial effect exists.

To go one step further, Table E4 replicates the models and adds an interaction between the profile of experts and the profile of candidates on two characteristics: left-right position and gender. We see that the profile of experts and candidates interacts significantly (candidate A only). Right-wing experts tend to evaluate the campaign tone of right-wing candidates as more positive and the campaign of left-wing candidates as more negative, and vice-versa for left-wing experts. Furthermore, female experts evaluate the campaign tone of female candidates as more positive. When we substantiate those effects through marginal effects, however (Figures E1 and E2), we see that even in the most extreme cases (e.g., far left expert evaluating far-right v far-left candidates) the differences are no substantial, and far from statistically significant (even accepting more tolerant confidence intervals). These effects, furthermore, only exist for candidate A (the first candidate evaluated, usually a frontrunner) and disappear almost completely for all other candidates.

The overall conclusion is that the profile of experts influences only marginally their evaluation of candidates’ tone, which is reassuring. We do see some trends, but the magnitude of those effects is negligible. However, to further minimize the risk of biases, the main analyses discussed in the article do not use the original measure of candidates’ tone, but rather rely on a variable adjusted through parametric *gllamm* models (King et al. 2004; Hopkins and King 2010); these models not only adjust the variable based on a series of vignettes, but take also into account the expert profile (left-right, gender, familiarity with elections in country, domestic). Furthermore, a series of robustness checks replicate the main analyses controlling also by the aggregate expert profile (results are robust, see Appendix B and C).

**Table E1**. Expert profile, descriptive statistics

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |
| **Variable** | **N** | **Mean** | **St. dev.** | **Min** | **Max** |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| Expert left-right | 518 | 4.36 | 1.83 | 1 | 10 |
| Discipline: country politics | 675 | 0.44 | 0.50 | 0 | 1 |
| Discipline: elections | 675 | 0.31 | 0.46 | 0 | 1 |
| Discipline: political communication | 675 | 0.21 | 0.41 | 0 | 1 |
| Discipline: comparative politics | 675 | 0.33 | 0.47 | 0 | 1 |
| Familiarity w/ elections in country | 525 | 8.04 | 1.77 | 1 | 10 |
| Survey was easy | 511 | 6.52 | 2.40 | 0 | 10 |
| Domestic expert | 675 | 0.72 | 0.45 | 0 | 1 |
| Female expert | 529 | 0.35 | 0.48 | 0 | 1 |
|  |  |  |  |  |  |

**Table E2**. Expert profile, descriptive statistics (election-specific samples)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |
| **Country** | **Election Date** | **Left-right placement a** | **Familiarity b** | **Survey was easy c** | **Domestic d** | **Female e** | **Total N** | **Response rate f** |
|  |  |  |  |  |  |  |  |  |
| Algeria | 4-May-17 | 3.40 | 6.17 | 4.60 | 0.20 | 0.33 | 10 | 17.24 |
| Armenia | 2-Apr-17 | 5.40 | 8.50 | 6.60 | 1.00 | 0.33 | 6 | 16.67 |
| Australia | 2-Jul-16 | 3.25 | 8.29 | 6.70 | 0.96 | 0.40 | 26 | 20.00 |
| Austria | 4-Dec-16 | 3.32 | 8.06 | 5.88 | 0.89 | 0.41 | 37 | 31.36 |
| Belarus | 11-Sep-16 | 6.33 | 6.33 | 5.11 | 0.46 | 0.44 | 13 | 23.66 |
| Bulgaria | 6-Nov-16 | 5.05 | 8.24 | 7.10 | 0.87 | 0.57 | 23 | 21.30 |
| Bulgaria | 26-Mar-17 | 5.30 | 7.60 | 6.50 | 0.87 | 0.40 | 15 | 13.76 |
| Côte d’Ivoire | 18-Dec-16 | 5.25 | 8.00 | 7.00 | 0.57 | 0.25 | 7 | 20.00 |
| Croatia | 11-Sep-16 | 4.27 | 8.60 | 7.00 | 0.83 | 0.33 | 18 | 28.57 |
| Ecuador | 19-Feb-17 | 3.79 | 8.17 | 7.00 | 0.82 | 0.37 | 22 | 16.67 |
| France | 23-Apr-17 | 4.31 | 8.37 | 5.88 | 0.59 | 0.15 | 34 | 17.53 |
| Georgia | 8-Oct-16 | 5.56 | 7.44 | 5.89 | 0.89 | 0.40 | 18 | 20.22 |
| Ghana | 7-Dec-16 | 5.75 | 8.92 | 8.25 | 0.69 | 0.08 | 13 | 17.57 |
| Hong Kong | 4-Sep-16 | 3.50 | 4.00 | 3.00 | 0.79 | 0.60 | 14 | 15.05 |
| Iceland | 25-Jun-16 | 4.17 | 8.83 | 7.67 | 0.79 | 0.33 | 14 | 35.90 |
| Iceland | 29-Oct-16 | 3.91 | 8.09 | 6.27 | 0.71 | 0.45 | 14 | 29.17 |
| Iran | 19-May-17 | 3.57 | 8.29 | 5.71 | 0.13 | 0.00 | 8 | 8.51 |
| Japan | 10-Jul-16 | 4.70 | 7.60 | 6.20 | 0.52 | 0.20 | 21 | 15.91 |
| Lithuania | 9-Oct-16 | 6.56 | 7.67 | 5.94 | 1.00 | 0.38 | 28 | 30.43 |
| Macedonia | 11-Dec-16 | 3.88 | 7.76 | 6.69 | 0.68 | 0.65 | 22 | 26.51 |
| Moldova | 30-Oct-16 | 6.78 | 9.00 | 6.67 | 0.83 | 0.33 | 12 | 14.46 |
| Mongolia | 29-Jun-16 | 4.00 | 7.40 | 6.20 | 0.25 | 0.00 | 8 | 21.05 |
| Montenegro | 16-Oct-16 | 3.33 | 8.67 | 6.50 | 0.75 | 0.33 | 16 | 30.77 |
| Morocco | 7-Oct-16 | 4.67 | 6.83 | 6.83 | 0.40 | 0.50 | 10 | 10.53 |
| Nicaragua | 6-Nov-16 | 3.75 | 6.50 | 6.00 | 0.20 | 0.00 | 5 | 17.86 |
| Romania | 11-Dec-16 | 5.65 | 8.38 | 6.95 | 0.87 | 0.43 | 23 | 27.38 |
| Russia | 18-Sep-16 | 5.08 | 6.83 | 6.57 | 0.54 | 0.33 | 28 | 15.82 |
| Serbia | 2-Apr-17 | 3.56 | 8.00 | 6.78 | 0.50 | 0.44 | 10 | 18.18 |
| South Korea | 9-May-17 | 3.40 | 8.00 | 5.75 | 0.40 | 0.40 | 5 | 5.71 |
| Spain | 26-Jun-16 | 4.15 | 8.38 | 7.00 | 0.89 | 0.31 | 19 | 24.68 |
| The Bahamas | 10-May-17 | 4.38 | 7.77 | 7.31 | 0.79 | 0.69 | 14 | 14.89 |
| The Netherlands | 15-Mar-17 | 3.73 | 7.68 | 4.41 | 0.93 | 0.25 | 40 | 22.73 |
| USA | 8-Nov-16 | 3.60 | 8.97 | 7.44 | 0.81 | 0.29 | 75 | 11.98 |
| Uzbekistan | 4-Dec-16 | 4.60 | 8.17 | 6.25 | 0.67 | 0.67 | 6 | 9.68 |
| Zambia | 11-Aug-16 | 2.50 | 8.00 | 4.50 | 0.00 | 0.50 | 6 | 14.29 |

a Ranges between 1 'very left' and 10 'very right'.

b Ranges between 0 'very unfamiliar' and 10 'very familiar'.

c Ranges between 0 'very difficult to understand' to 10 'very easy to understand'.

d Ratio of domestic experts (i.e. working in the country where the election took place).

e Ratio of female experts.

f Excluding opt-outs.

**Table E3**. Expert profile and candidates negativity

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |  |
|  | **CANDIDATE A** | | | **CANDIDATE B** | | | **CANDIDATE C** | | |
|  | Coef | Sig | Se | Coef | Sig | Se | Coef | Sig | Se |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| Expert left-right | 0.19 |  | (0.12) | 0.26 | \* | (0.11) | 0.31 | \* | (0.12) |
| Discipline: country politics | 0.41 |  | (0.45) | -0.14 |  | (0.42) | -0.28 |  | (0.47) |
| Discipline: elections | -0.21 |  | (0.46) | 0.01 |  | (0.43) | 0.38 |  | (0.47) |
| Discipline: political communication | -0.13 |  | (0.47) | 0.49 |  | (0.44) | -0.23 |  | (0.48) |
| Discipline: comparative politics | 0.44 |  | (0.44) | 0.12 |  | (0.42) | -0.34 |  | (0.45) |
| Familiarity w/ elections in country | -0.00 |  | (0.14) | -0.02 |  | (0.13) | 0.16 |  | (0.15) |
| Survey was easy | 0.01 |  | (0.09) | -0.05 |  | (0.08) | 0.10 |  | (0.09) |
| Domestic expert | -0.46 |  | (0.53) | 0.43 |  | (0.51) | 0.59 |  | (0.54) |
| Female expert | 0.05 |  | (0.43) | -0.29 |  | (0.41) | 0.45 |  | (0.45) |
|  |  |  |  |  |  |  |  |  |  |
| Electoral system: PR | -1.75 |  | (1.42) | 1.92 | † | (1.14) | -0.85 |  | (1.02) |
| Effective number of candidates | 0.33 |  | (0.36) | -0.26 |  | (0.30) | -0.11 |  | (0.30) |
| Presidential election | 1.94 |  | (1.54) | -1.67 |  | (1.24) | 0.70 |  | (1.08) |
| Civil Rights | -0.03 |  | (0.06) | 0.01 |  | (0.05) | -0.05 |  | (0.04) |
| OECD | 1.54 |  | (1.99) | -1.57 |  | (1.60) | 3.75 | \*\* | (1.42) |
|  |  |  |  |  |  |  |  |  |  |
| Intercept | -3.29 |  | (3.91) | 0.77 |  | (3.23) | -3.26 |  | (2.91) |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| N(experts) | 460 |  |  | 455 |  |  | 376 |  |  |
| N(elections) | 40 |  |  | 40 |  |  | 39 |  |  |
| R2 | 0.10 |  |  | 0.16 |  |  | 0.16 |  |  |
|  |  |  |  |  |  |  |  |  |  |

Note: All models are random-effect hierarchical linear regressions (HLM) where experts are nested within elections. Dependent variable is the tone of the candidates campaign (original unadjusted measure), and varies between -10 'very negative' and 10 'very positive'.

\*\*\* p<0.001, \*\* p<0.01, \* p<0.05, † p<0.1.

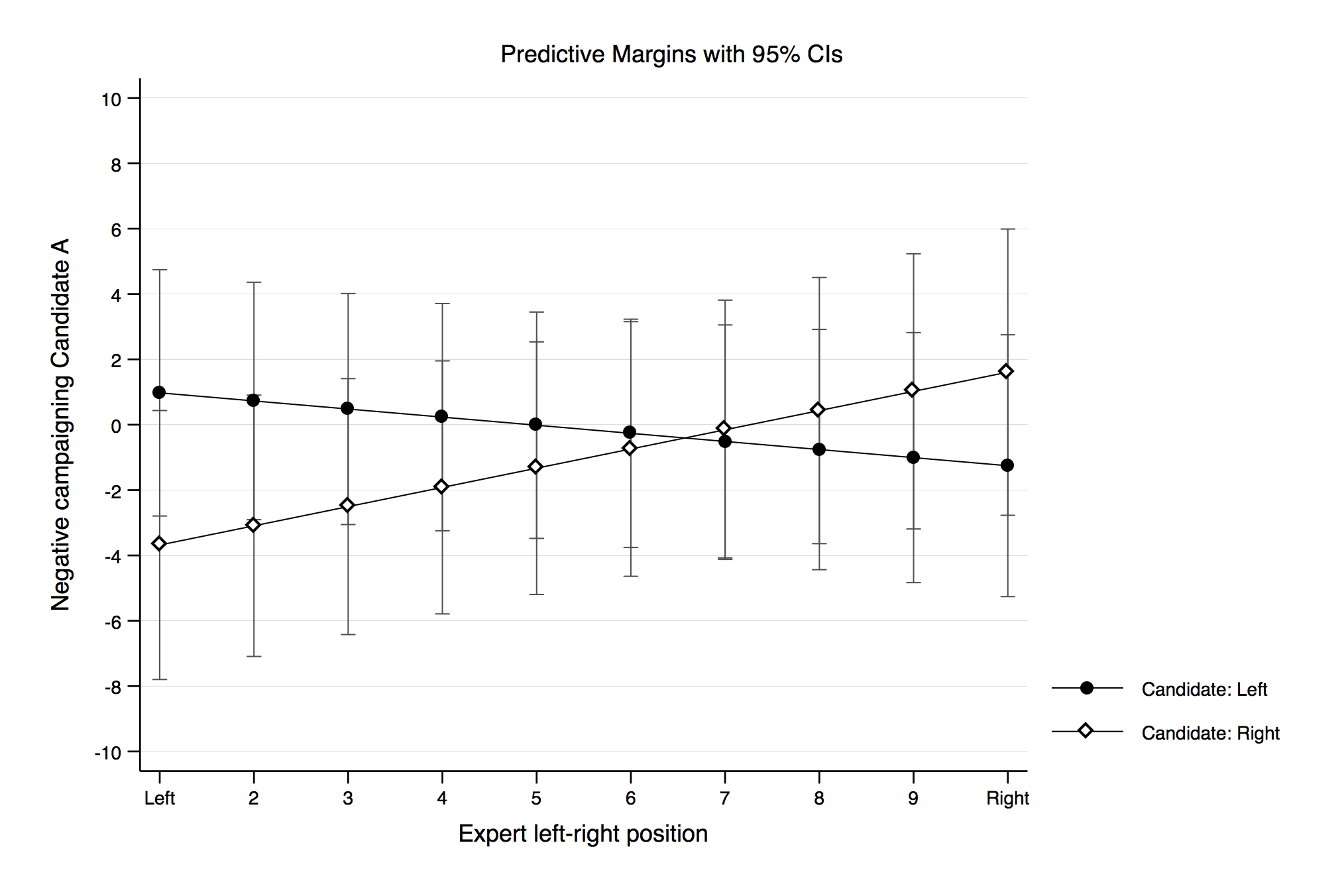
**Table E4**. Expert profile and candidates negativity (with interactions expert \* candidate)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |  |
|  | **CANDIDATE A** | | | **CANDIDATE B** | | | **CANDIDATE C** | | |
|  | Coef | Sig | Se | Coef | Sig | Se | Coef | Sig | Se |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| Expert left-right | -0.67 | \* | (0.34) | 0.18 |  | (0.31) | 0.13 |  | (0.38) |
| Discipline: country politics | 0.50 |  | (0.44) | -0.08 |  | (0.43) | -0.33 |  | (0.48) |
| Discipline: elections | -0.21 |  | (0.45) | -0.03 |  | (0.44) | 0.46 |  | (0.48) |
| Discipline: political communication | -0.11 |  | (0.47) | 0.58 |  | (0.45) | -0.18 |  | (0.49) |
| Discipline: comparative politics | 0.13 |  | (0.45) | 0.14 |  | (0.42) | -0.30 |  | (0.47) |
| Familiarity w/ elections in country | -0.05 |  | (0.13) | -0.00 |  | (0.13) | 0.14 |  | (0.15) |
| Survey was easy | 0.00 |  | (0.09) | -0.05 |  | (0.08) | 0.03 |  | (0.10) |
| Domestic expert | -0.68 |  | (0.53) | 0.43 |  | (0.51) | 0.43 |  | (0.57) |
| Female expert | -0.79 |  | (0.48) | -0.50 |  | (0.45) | 0.41 |  | (0.48) |
|  |  |  |  |  |  |  |  |  |  |
| Candidate left-right | -1.37 | \* | (0.59) | -0.54 |  | (0.46) | -0.62 |  | (0.50) |
| Candidate is female | -0.05 |  | (2.40) | -1.16 |  | (1.54) | 3.26 |  | (2.04) |
|  |  |  |  |  |  |  |  |  |  |
| Expert LR \* Candidate LR | 0.21 | \*\* | (0.08) | 0.01 |  | (0.07) | 0.04 |  | (0.08) |
| Expert female \* Candidate female | 3.38 | \*\*\* | (1.03) | 1.82 | † | (1.09) | 0.86 |  | (1.53) |
|  |  |  |  |  |  |  |  |  |  |
| Electoral system: PR | -1.79 |  | (1.47) | 2.15 | \* | (1.08) | -2.28 | \* | (1.03) |
| Effective number of candidates | 0.18 |  | (0.40) | -0.05 |  | (0.30) | -0.08 |  | (0.29) |
| Presidential election | 1.04 |  | (1.62) | -0.92 |  | (1.19) | -0.24 |  | (1.12) |
| Civil Rights | -0.03 |  | (0.06) | 0.01 |  | (0.05) | -0.05 |  | (0.04) |
| OECD | 1.45 |  | (2.11) | -1.76 |  | (1.48) | 2.62 | † | (1.39) |
|  |  |  |  |  |  |  |  |  |  |
| Intercept | 4.96 |  | (4.66) | 1.33 |  | (3.64) | 1.65 |  | (3.28) |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| N(experts) | 448 |  |  | 446 |  |  | 349 |  |  |
| N(elections) | 39 |  |  | 37 |  |  | 33 |  |  |
| R2 | 0.19 |  |  | 0.22 |  |  | 0.23 |  |  |
|  |  |  |  |  |  |  |  |  |  |

Note: All models are random-effect hierarchical linear regressions (HLM) where experts are nested within elections. Dependent variable is the tone of the candidates campaign (original unadjusted measure), and varies between -10 'very negative' and 10 'very positive'.

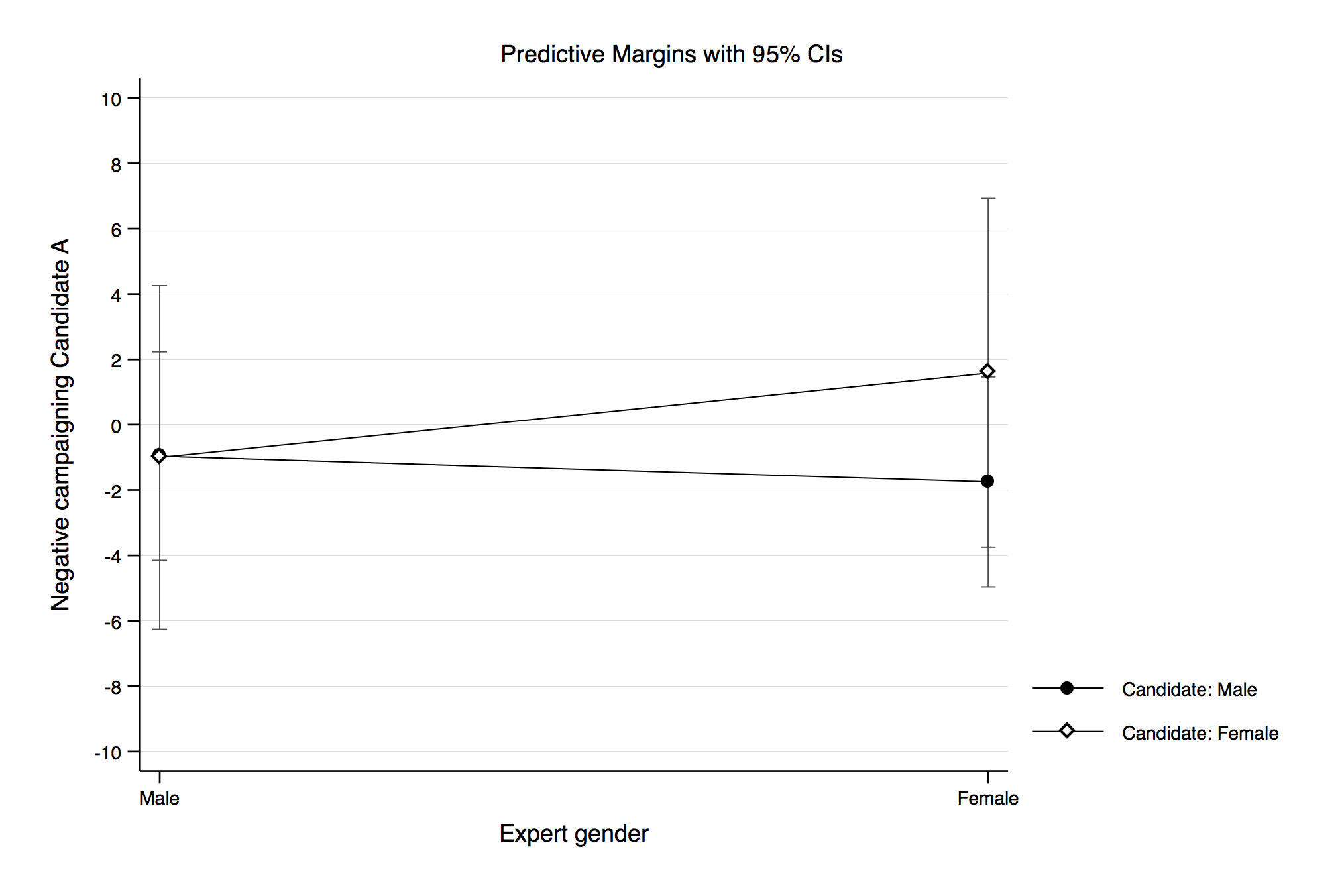
\*\*\* p<0.001, \*\* p<0.01, \* p<0.05, † p<0.1.

**Figure E1**. Negativity of candidate A by left-right position of expert \* candidate



Note: Marginal effects with 95% CIs, based on coefficients in Table E3 (Candidate A).

**Figure E2**. Negativity of candidate A by gender of expert \* candidate



Note: Marginal effects with 95% CIs, based on coefficients in Table E3 (Candidate A).

# Appendix F

Descriptive statistics

**Table F1**. Descriptive statistics (missing values excluded)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |
| **Level** | **Variable** | **N** | **Mean** | **Std. dev.** | **Min** | **Max** |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Candidates | \*\* Negativity (adjusted measure) | 172 | 4.14 | 1.06 | 1.80 | 6.50 |
|  | \*\* Negativity (non-adjusted measure) | 172 | -0.43 | 3.04 | -7.86 | 6.73 |
|  | Incumbent | 172 | 0.16 | 0.36 | 0.00 | 1.00 |
|  | Success | 172 | 17.34 | 17.40 | 0.12 | 88.61 |
|  | Average polls result | 127 | 15.57 | 13.88 | 0.20 | 58.05 |
|  | Extremism | 172 | 0.46 | 0.65 | 0.00 | 2.00 |
|  | Left-right | 172 | 4.15 | 1.56 | 1.00 | 7.00 |
|  | Female | 172 | 0.15 | 0.35 | 0.00 | 1.00 |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Dyads | \*\* Primary target of attacks | 811 | 10.55 | 21.37 | 0.00 | 100.00 |
|  | Target is incumbent | 811 | 0.14 | 0.35 | 0.00 | 1.00 |
|  | Target is ahead in score | 811 | -0.02 | 22.87 | -86.26 | 86.26 |
|  | Ideological distance sponsor-target | 811 | 3.24 | 2.37 | 0.00 | 12.00 |
|  | Attacks received from target | 811 | 10.58 | 21.37 | 0.00 | 100.00 |
|  | Genders: M attacks F | 811 | 0.12 | 0.33 | 0.00 | 1.00 |
|  | Genders: F attacks M | 811 | 0.12 | 0.33 | 0.00 | 1.00 |
|  | Genders: F attacks F | 811 | 0.05 | 0.22 | 0.00 | 1.00 |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Elections | Electoral system: PR | 35 | 0.46 | 0.51 | 0.00 | 1.00 |
|  | Effective number of candidates | 35 | 4.08 | 2.34 | 1.27 | 12.71 |
|  | Election competitiveness | 35 | 2.21 | 1.08 | 0.00 | 3.74 |
|  | Presidential election | 35 | 1.40 | 0.50 | 1.00 | 2.00 |
|  | OECD | 35 | 0.29 | 0.46 | 0.00 | 1.00 |
|  | Negativity of whole campaign | 35 | 4.19 | 0.97 | 2.00 | 6.39 |
|  |  |  |  |  |  |  |

\*\* Dependent variable.