

1 Appendix

1.1 Robustness

1.1.1 K&P's Estimation Strategy

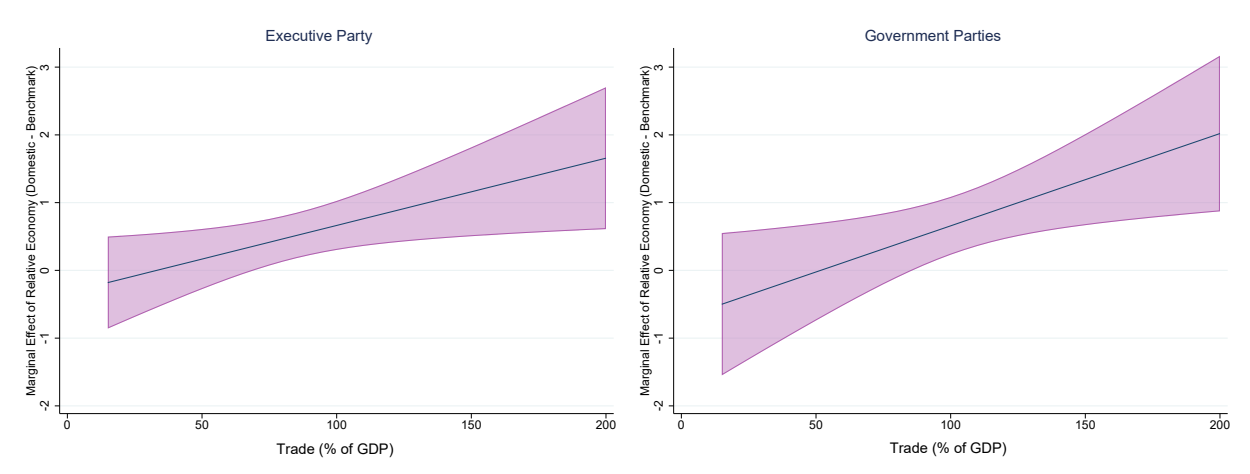
For robustness, I employ empirical strategy that Kayser and Peress (2012) suggest. It includes a deviation in growth and the benchmark's economy as appeared in Equation (6). To construct the *Relative* variable, the benchmark's growth rate is subtracted from the domestic growth rate. I use the information of single benchmark—the GDP growth rate of the first spatial reference point which has the highest frequency in one's domestic news reports¹⁹. The *Relative* and *Benchmark* are interacted with the globalization variable (noted as *Gz* in the Equation (6)).

$$\text{Vote} = \alpha + \beta_1 \text{Relative} + \beta_2 \text{Benchmark} + \beta_3 \text{Relative} \times \text{Gz} + \beta_4 \text{Benchmark} \times \text{Gz} + \beta_5 \text{Gz} + \lambda\omega + \varepsilon \quad (6)$$

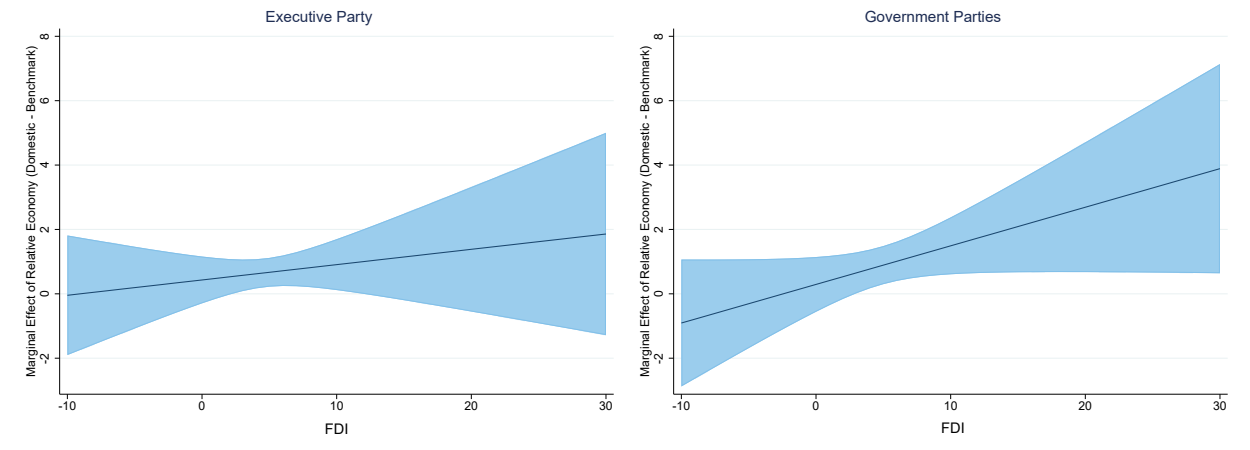
Figure A1 presents the degree to which exposure to the global market conditions the effect of deviation in growth rate on incumbent vote share. The upper figures show the marginal effect plot of *Relative GDP Growth* across the range of *Trade*, and the bottom figures show the marginal effect across the range of *Capital Flows*. This is consistent with the main findings based on Arel-Buncock et al.'s model. First, the marginal effect of *Relative GDP Growth* heads upward when it comes to *Trade*, indicating that trade openness strengthens the positive relations between the relative growth rate and vote share for both executive party and coalition government parties. Regarding *Capital Flows*, the marginal effect of *Relative GDP Growth* becomes statistically significant in case of coalition government's vote share. Using Kayser and Peress' estimation strategy, it is clear that both trade and capital flows increase the impact of relative economic performance, at least, on the incumbent parties' vote share.

¹⁹A separate estimation using multiple benchmarks (the average GDP growth of the three spatial reference points) yields the similar results.

Figure A1: The Effect of Relative Growth on Incumbent Vote Share conditional on Globalization using K&P's Model (95% CI)



(a) Trade



(b) FDI

Note: The results are based on Kayser & Peress's (2012) model. Table A1 presents the estimation results.

Table A1: The Effect of the Relative Economy on Incumbent Vote Share conditional on Globalization using K&P's Model

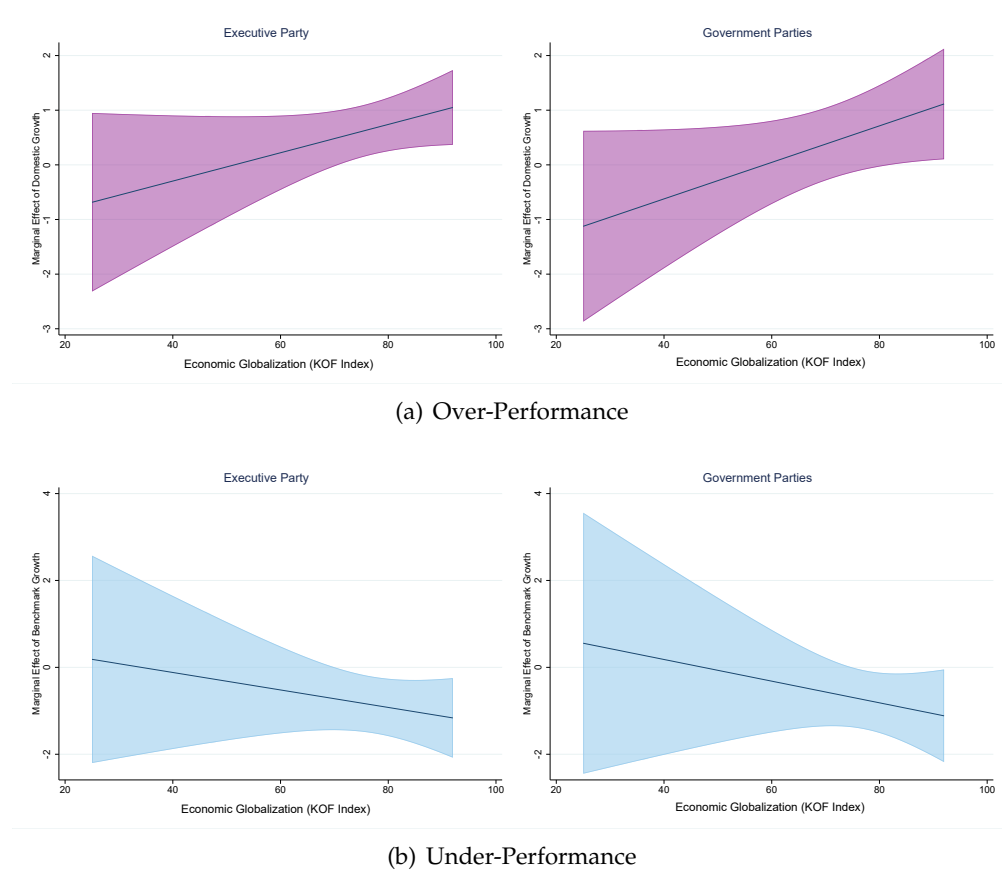
DV: Executive Party (Model 1, 3)	Trade		FDI	
Incumbent Parties (Model 2, 4)	(1)	(2)	(3)	(4)
Previous Vote	0.224* (0.125)	0.521*** (0.124)	0.0863 (0.137)	0.555*** (0.165)
Relative GDP Growth	-0.329 (0.405)	-0.704 (0.613)	0.431 (0.371)	0.292 (0.434)
Benchmark GDP Growth	-0.432 (0.596)	-0.553 (0.723)	0.180 (0.610)	0.466 (0.796)
Relative GDP Growth × Trade	0.009*** (0.004)	0.0136*** (0.006)		
Relative GDP Growth × FDI			0.047 (0.063)	0.120* (0.065)
Benchmark GDP Growth × Trade	0.002 (0.004)	0.003 (0.006)		
Benchmark GDP Growth × FDI			0.177** (0.065)	0.201** (0.087)
Relative Unemployment	-1.048* (0.518)	-0.521 (0.577)	-0.792** (0.356)	-0.224 (0.397)
Benchmark Unemployment	-0.701 (0.644)	-0.146 (0.808)	-0.952** (0.428)	0.0754 (0.569)
Relative Unemployment × Trade	0.005 (0.004)	0.004 (0.006)		
Relative Unemployment × FDI			0.033 (0.033)	-0.032 (0.045)
Benchmark Unemployment × Trade	0.002 (0.005)	0.000 (0.007)		
Benchmark Unemployment × FDI			0.063 (0.038)	-0.005 (0.046)
Trade	0.131** (0.051)	0.110 (0.080)		
FDI			-1.173** (0.538)	-0.856 (0.560)
ENEP	-4.420*** (0.655)	-3.931*** (0.933)	-3.883*** (0.863)	-3.077** (1.225)
Coalition Size	0.628 (1.050)	4.492*** (1.373)	-1.056 (2.069)	4.803** (2.090)
Presidential Election	-4.577 (3.200)	-5.084 (3.888)	-7.487 (4.971)	-12.25** (5.087)
Year	-0.437*** (0.127)	-0.417*** (0.145)	-0.309*** (0.099)	-0.248* (0.139)
Constant	909.8*** (255.3)	853.1*** (286.1)	673.3*** (196.4)	514.3* (273.5)
R^2	0.582	0.514	0.576	0.592
Fixed Effects	✓	✓	✓	✓
Elections	145	159	100	107
Countries	28	29	25	26

Robust standard errors in parentheses.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

1.1.2 Alternative Measure of Globalization: KOF' Economic Globalization

Figure A2: The Marginal Effect of Relative Growth on Incumbent Vote Share conditional on Globalization using KOF's Measure (95% CI)



Note: KOF's measure of economic globalization (Dreher, 2006)

1.1.3 Alternative Models

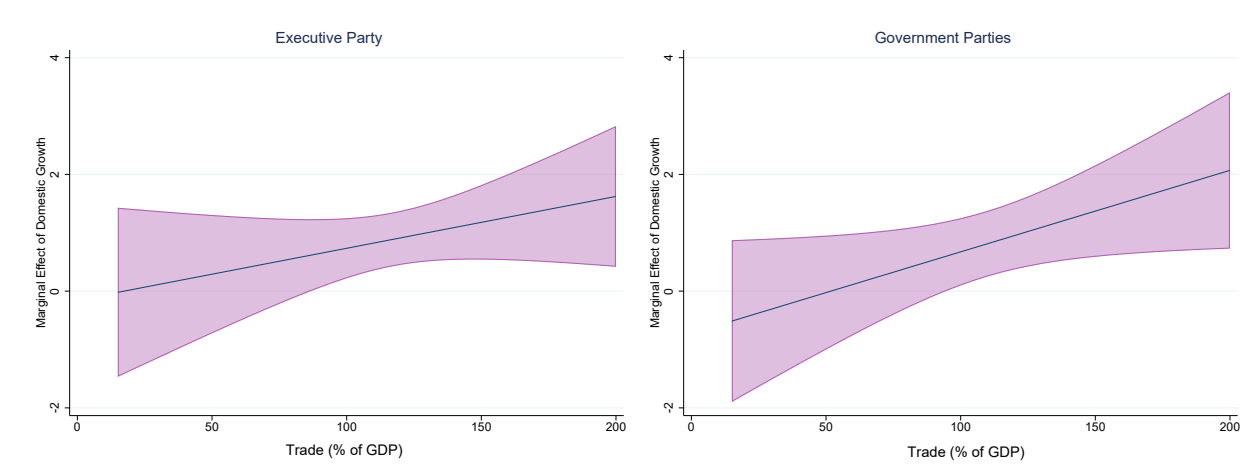
Table A2: The Effect of the Relative Economy on Incumbent Vote Share conditional on Globalization without *Unemployment Rate*

DV: Executive Party (Model 1, 3) Incumbent Parties (Model 2, 4)	Single Benchmark		Multiple Benchmarks	
	(1)	(2)	(3)	(4)
Previous Vote	0.175 (0.120)	0.489*** (0.107)	0.197 (0.118)	0.500*** (0.120)
Domestic GDP Growth	0.120 (0.430)	-0.410 (0.551)	0.747** (0.321)	-0.093 (0.606)
Domestic GDP Growth × Trade	0.007 (0.005)	0.012** (0.005)	0.001 (0.003)	0.006 (0.005)
Benchmark(s) GDP Growth	-0.424 (0.405)	-0.068 (0.395)	-1.322* (0.773)	-0.432 (0.820)
Benchmark(s) GDP Growth × Trade	-0.004 (0.005)	-0.008** (0.003)	0.005 (0.005)	-0.002 (0.005)
Trade	0.150*** (0.045)	0.127** (0.051)	0.131*** (0.0412)	0.106** (0.051)
ENEP	-4.371*** (0.563)	-4.293*** (0.866)	-4.765*** (0.544)	-4.591*** (0.892)
Coalition Size	0.716 (1.148)	4.888*** (1.372)	0.633 (1.103)	4.825*** (1.263)
Presidential Election	-6.980** (3.010)	-5.666 (3.958)	-7.019** (2.808)	-5.491 (3.800)
Year	-0.380*** (0.127)	-0.392*** (0.141)	-0.366*** (0.117)	-0.378** (0.144)
Constant	791.7*** (250.6)	801.3*** (277.7)	766.4*** (231.2)	775.9** (284.5)
R^2	0.541	0.521	0.545	0.499
Fixed Effects	✓	✓	✓	✓
Elections	148	162	147	161
Countries	28	29	28	29

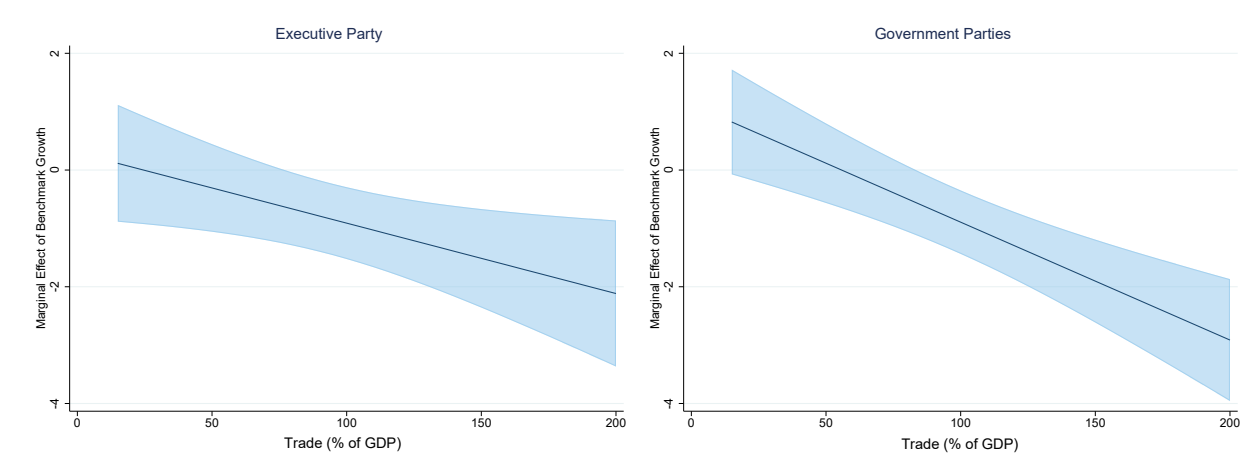
Robust standard errors in parentheses.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Figure A3: The Effect of Growth on Incumbent Vote Share conditional on Trade using Baseline Models (95% CI)



(a) Over-Performance



(b) Under-Performance

Note: The figures are based on the models including the economy variables and the lagged DV only.

1.2 Supplementary Information

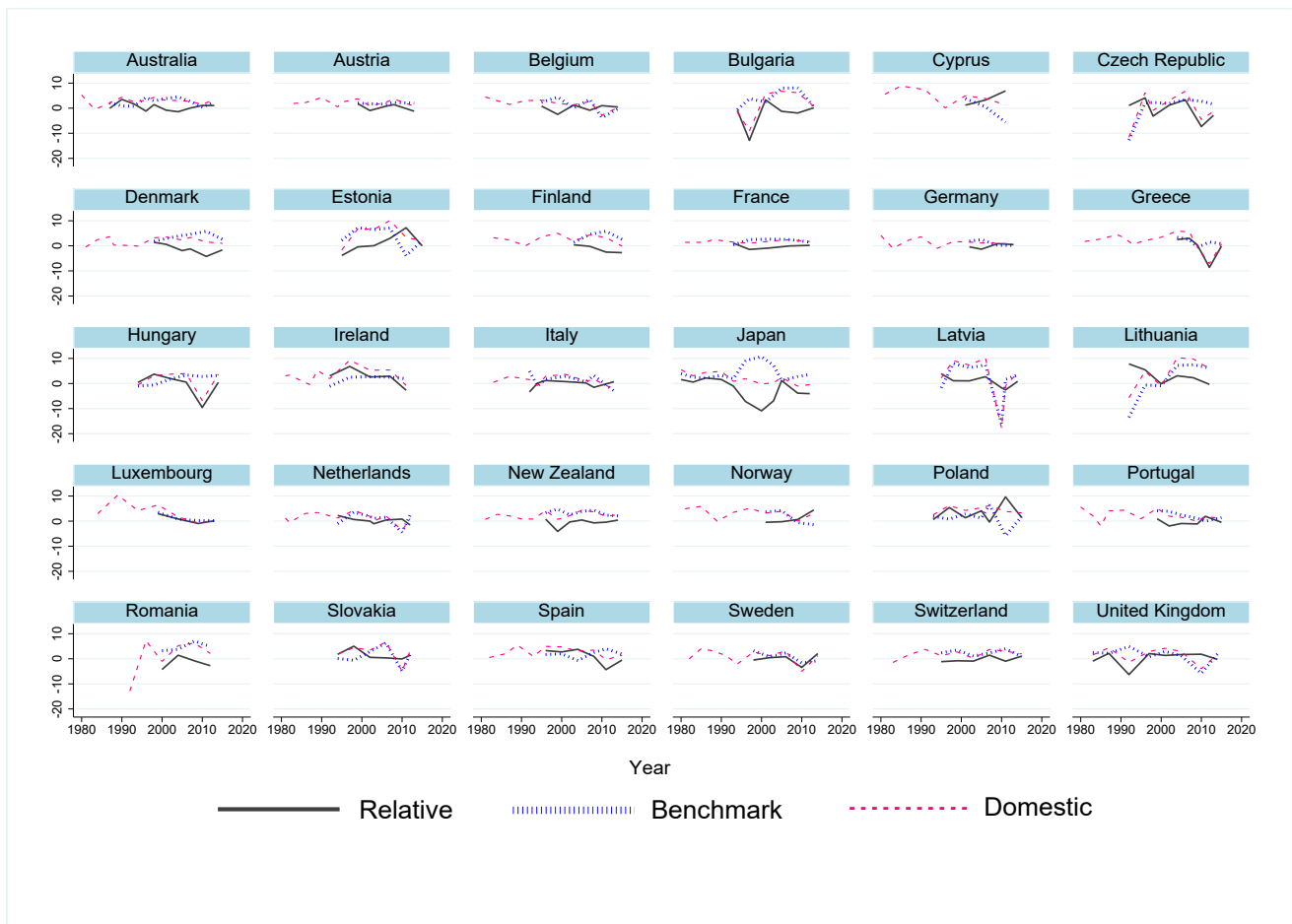
1.2.1 Variations in Domestic, Benchmark and Relative GDP Growth

Figure A4 shows the variations in growth rates of domestic GDP, benchmark GDP, and the gap between the two, noted as *Relative GDP* (the solid line). The fluctuations in *Relative GDP* crossing the zero line show that countries are over- and under-performing their benchmark GDP and do not deliberately compare with a particular benchmark that has a consistently better or poorer economy.

More to the point, the *Relative GDP* indicates the different ways in which citizens map an absolute number onto a subject matter. For instance, before the Great Recession hit the world economy in the late 2000s, Bulgaria had considerable surges in economic growth (6.75% in 2004 and 6.19% in 2008). However, the rosy outlook changes when the two years are compared to the Romanian economy, which received the largest media attention among foreign economies in those years. In fact, the Romanian economic growth rates were 8.0% in 2004 and 8.1% in 2008, resulting in relative growth rates of -1.25% ($6.75 - 8.0$) and -1.91% ($6.19 - 8.1$) for Bulgaria.

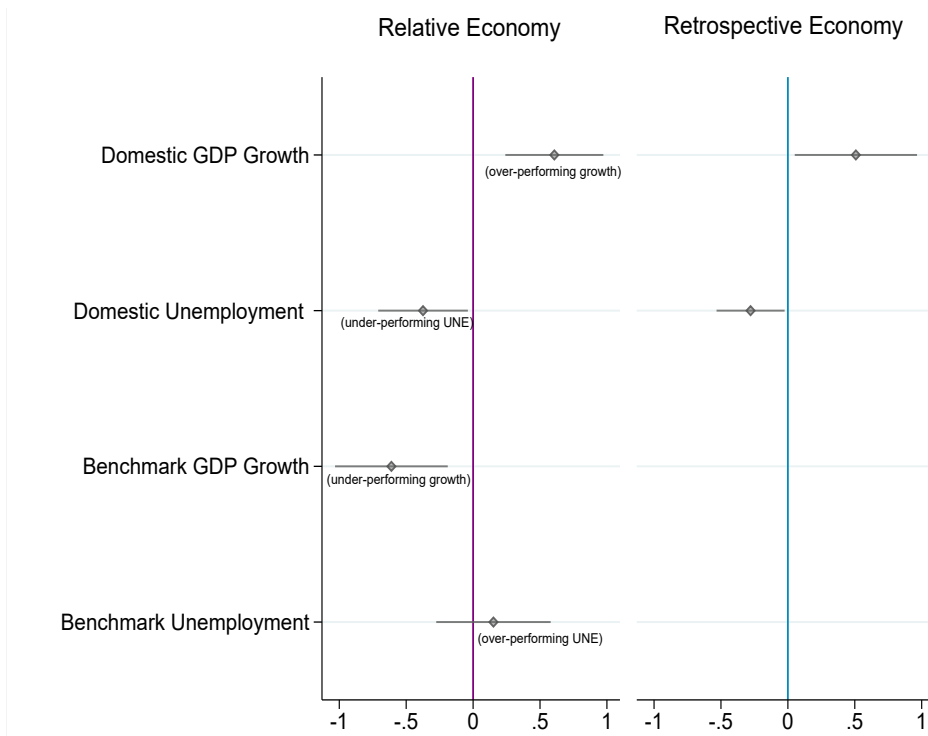
Another example from Latvia shows the opposite story: its -17.72% growth rate in 2009 was the country's worst record in modern history. However, when compared to Lithuania's growth rate of -16.0% , there was a -1.73% in *Relative GDP*, which is not a huge decline. Cases in Poland add another interesting story. With a growth rate of 3.87% in 2010, it would be perceived as a fair economy, but becomes economically strong when compared to its benchmarked poorer economy (-5.6% in Germany), which boosts the *Relative GDP* growth rate of Poland to 9.67% . In contrast, the Japanese economy seemed at first to be acceptable with a GDP growth rate of -0.2% in 1999, but a surge South Korean economic growth (a 10.7%) in the same year sharply reduced Japanese relative growth rate to -10.9% . Such comparisons provide different methods of assessing domestic economic conditions.

Figure A4: Variations in Domestic, Benchmark and Relative GDP Growth Rates across Country



Note: The information is based on one year lagged values of GDP growth rates. The line connects the growth rates of election years, so it does not reflect the yearly changes in the rates of growth.

Figure A5: Comparing the Effect of Relative and Retrospective Economy on Incumbent Vote Share (95% CI)



Note: For a simple visual demonstration, only the economy variables are included in the figure although the results are based on the full models with all control variables. The higher predictive power of a model with relative economy (i.e., $R^2 = 0.5094$) than that of model with retrospective economy (i.e., $R^2 = 0.4326$) suggests more confidence of employing the relative economy voting.

Table A3: The Effect of Relative Economy on Incumbent Vote Share

	(1) Executive Party	(2) Incumbent Parties
Previous Vote	0.166 (0.124)	0.485*** (0.115)
Domestic GDP Growth	0.607*** (0.215)	0.554* (0.285)
Benchmark GDP Growth	-0.610** (0.247)	-0.574** (0.247)
Domestic Unemployment	-0.374* (0.197)	-0.131 (0.260)
Benchmark Unemployment	0.152 (0.251)	0.267 (0.289)
ENEP	-4.425*** (0.663)	-4.046*** (0.914)
Coalition Size	0.0155 (1.042)	4.555*** (1.269)
Presidential Election	-6.054** (2.833)	-5.896 (4.161)
Year	-0.105 (0.117)	-0.178* (0.102)
Constant	257.9 (231.9)	383.4* (203.8)
R^2	0.509	0.485
Fixed Effects	✓	✓
Elections	152	168
Countries	28	29

Robust standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A4: The Effect of Relative Economy on Incumbent Vote Share conditional on Capital Flows (FDI)

DV: Executive Party (Model 1, 3) Incumbent Parties (Model 2, 4)	Single Benchmark		Multiple Benchmarks	
	(1)	(2)	(3)	(4)
Previous Vote	0.086 (0.138)	0.519*** (0.153)	0.060 (0.136)	0.555*** (0.151)
Domestic GDP Growth	0.143 (0.392)	0.075 (0.503)	0.065 (0.396)	0.107 (0.465)
Domestic GDP Growth × FDI	0.111 (0.069)	0.185** (0.080)	0.083 (0.085)	0.131 (0.097)
Benchmark(s) GDP Growth	-0.001 (0.496)	0.228 (0.598)	0.415 (0.980)	0.486 (1.313)
Benchmark(s) GDP Growth × FDI	0.032 (0.091)	-0.018 (0.102)	0.081 (0.112)	0.095 (0.145)
Domestic Unemployment	-0.757** (0.363)	-0.199 (0.353)	-0.733* (0.396)	-0.147 (0.415)
Domestic Unemployment × FDI	0.025 (0.031)	-0.033 (0.038)	0.008 (0.036)	-0.058 (0.055)
Benchmark(s) Unemployment	-0.012 (0.313)	0.457 (0.390)	-0.132 (0.489)	0.493 (0.648)
Benchmark(s) Unemployment × FDI	0.031 (0.019)	0.025 (0.027)	0.048 (0.039)	0.044 (0.055)
FDI	-1.101** (0.513)	-0.778 (0.553)	-1.192** (0.604)	-0.952 (0.686)
ENEP	-3.986*** (0.847)	-3.250** (1.188)	-3.921*** (0.764)	-3.165*** (1.130)
Coalition Size	-1.143 (2.046)	4.915** (2.191)	-1.032 (1.833)	4.909** (1.846)
Presidential Election	-6.349 (5.250)	-11.190** (4.556)	-5.585 (4.833)	-10.943** (4.114)
Year	-0.322*** (0.111)	-0.260* (0.145)	-0.351*** (0.119)	-0.260* (0.148)
Constant	697.9*** (221.1)	538.8* (285.1)	758.0*** (238.3)	536.5* (292.1)
R^2	0.563	0.591	0.571	0.571
Fixed Effects	✓	✓	✓	✓
Elections	100	107	99	106
Countries	25	26	25	26

Robust standard errors in parentheses.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A5: The Effect of Relative Economy on Incumbent Vote Share conditioned on Capital Flows (FDI + Portfolio)

DV: Executive Party (Model 1, 3) Incumbent Parties (Model 2, 4)	Single Benchmark		Multiple Benchmarks	
	(1)	(2)	(3)	(4)
Previous Vote	0.088 (0.150)	0.491*** (0.156)	0.042 (0.139)	0.517*** (0.150)
Domestic GDP Growth	0.591* (0.289)	0.501 (0.390)	0.553** (0.236)	0.641** (0.235)
Domestic GDP Growth × Capital Flows	0.006 (0.025)	0.037 (0.024)	-0.012 (0.020)	0.008 (0.025)
Benchmark GDP Growth	-0.463 (0.491)	-0.826 (0.709)	0.057 (0.751)	-0.553 (1.272)
Benchmark GDP Growth × Capital Flows	0.064 (0.040)	0.081 (0.051)	0.061 (0.042)	0.088 (0.069)
Domestic Unemployment	-0.626** (0.302)	-0.317 (0.287)	-0.651** (0.315)	-0.341 (0.312)
Domestic Unemployment × Capital Flows	0.009 (0.009)	0.005 (0.012)	0.007 (0.010)	0.003 (0.015)
Benchmark Unemployment	-0.158 (0.359)	-0.016 (0.474)	-0.259 (0.481)	0.000 (0.742)
Benchmark Unemployment × Capital Flows	0.012 (0.012)	0.021 (0.016)	0.004 (0.015)	0.013 (0.029)
Capital Flows	-0.296 (0.185)	-0.521** (0.199)	-0.160 (0.173)	-0.363 (0.248)
ENEP	-4.013*** (0.870)	-3.381*** (1.196)	-4.061*** (0.841)	-3.416*** (1.210)
Coalition Size	-0.792 (2.006)	5.854** (2.247)	-1.022 (1.844)	5.389*** (1.809)
Presidential Election	-5.949 (4.605)	-9.691** (4.129)	-5.691 (4.566)	-10.67** (4.198)
Year	-0.345*** (0.098)	-0.242 (0.149)	-0.408*** (0.099)	-0.282* (0.155)
Constant	742.9*** (196.3)	508.3* (293.5)	870.5*** (200.2)	588.1* (304.0)
R^2	0.551	0.585	0.549	0.551
Fixed Effects	✓	✓	✓	✓
Elections	100	107	99	106
Countries	25	26	25	26

Robust standard errors in parentheses.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A6: List of Countries and Elections

Country	Year
Australia	1987, 1990, 1993, 1996, 1998, 2001, 2004, 2007, 2010
Austria	1999, 2002, 2006, 2008
Belgium	1995, 1999, 2003, 2007, 2010
Bulgaria	1997, 2001, 2005, 2009
Cyprus	2001, 2006, 2011
Czech Republic	1996, 1998, 2002, 2006, 2010
Denmark	1998, 2001, 2005, 2007, 2011
Estonia	1999, 2003, 2007, 2011
Finland	2003, 2007, 2011
Germany	2002, 2005, 2009
Greece	2004, 2007, 2009
Hungary	1998, 2002, 2006, 2010
Ireland	1992, 1997, 2002, 2007, 2011
Italy	1992, 1994, 1996, 2001, 2006, 2008
Japan	1983, 1986, 1990, 1993, 1996, 2000, 2003, 2005, 2009, 2012
Latvia	1998, 2002, 2006, 2010, 2011
Lithuania	2000, 2004, 2008
Luxembourg	1999, 2004, 2009
Netherlands	1994, 1998, 2002, 2003, 2006, 2010, 2012
New Zealand	1996, 1999, 2002, 2005, 2008, 2011
Norway	2001, 2005, 2009
Poland	1997, 2001, 2005, 2007, 2011
Portugal	1999, 2002, 2005, 2009, 2011
Romania	2000, 2004, 2008
Slovakia	1998, 2002, 2006, 2010, 2012
Spain	1996, 2000, 2004, 2008, 2011
Sweden	1998, 2002, 2006, 2010
Switzerland	1995, 1999, 2003, 2007, 2011
United Kingdom	1983, 1987, 1992, 1997, 2001, 2005, 2010

1.2.2 List of Benchmark(s)

The data of benchmark is obtained from Park (2019), and below is a sample of the list presented in the *Data Collection* section (Park, 2019: 4-5). Find the full dataset at <https://doi.org/10.1016/j.electstud.2019.102085> including the full list of the benchmark countries.

Table A7: Media-guided List of Benchmark(s)

Country	Election	Rank 1	Rank 2	Rank 3
Australia	1987	New Zealand (.68/.58)	Japan (.32/.27)	Germany (.14)
	1990	New Zealand (.70/.61)	Japan (.30/.25)	Germany (.14)
	1993	New Zealand (.56/.46)	Japan (.46/.36)	Germany (.18)
	1996	New Zealand (.69/.61)	Japan (.31/.28)	Germany (.11)
	1998	New Zealand (.53/.49)	Japan (.47/.42)	Germany (.08)
	2001	New Zealand (.73/.68)	Japan (.27/.26)	UK (.07)
	2004	New Zealand (.80/.75)	Japan (.20/.28)	UK (.07)
	2007	New Zealand (.81/.74)	Japan (.19/.16)	UK (.09)
	2010	New Zealand (.71/.59)	Japan (.29/.25)	UK (.17)
	2013	New Zealand (.72/.61)	Japan (.28/.24)	Germany (.15)
Austria	1999	Germany (.70/.57)	France (.30/.24)	UK (.19)
	2002	Italy (.67/.64)	Germany (.33/.26)	France (.21)
	2006	France (.64/.49)	UK (.36/.28)	Italy (.23)
	2008	France (.78/.72)	UK (.22/.20)	Italy (.08)
	2013	France (.76/.64)	UK (.24/.19)	Italy (.16)
Belgium	1995	Germany (.53/.44)	Netherlands (.47/.38)	France (.18)
	1999	Netherlands (.61/.50)	Germany (.39/.30)	France (.20)
	2003	Netherlands (.62/.50)	Germany (.38/.30)	France (.20)
	2007	Netherlands (.63/.51)	Germany (.37/.29)	France (.18)
	2010	Netherlands (.61/.51)	Germany (.39/.33)	France (.15)
	2014	Netherlands (.63/.52)	Germany (.37/.29)	France (.18)
Bulgaria	1994	Hungary (.60/.50)	Romania (.40/.33)	Greece (.17)
	1997	Romania (.68/.65)	Hungary (.32/.31)	Greece (.04)
	2001	Romania (.63/.56)	Hungary (.37/.33)	Greece (.16)
	2005	Romania (.52/.50)	Hungary (.48/.46)	Greece (.04)
	2009	Romania (.59/.47)	Greece (.41/.32)	Hungary (.21)
	2013	Romania (.62/.50)	Hungary (.38/.30)	Greece (.19)
Cyprus	2001	Greece (.67/.61)	Germany (.33/.29)	France (.09)
	2006	Greece (.70/.67)	Germany (.29/.22)	France (.07)
	2011	Greece (.68/.55)	Germany (.32/.25)	France (.19)

The first value in the parentheses is based on the Rank 1 and 2 only, and the second value is based on all ranks.

Table A8: Media-guided List of Benchmark(s)

Country	Election	Rank 1	Rank 2	Rank 3
Czech Republic	1992	Hungary (.59/.44)	Germany (.41/.30)	Poland (.26)
	1996	France (.70/.56)	Germany (.30/.24)	Poland (.19)
	1998	France (.61/.49)	Poland (.39/.31)	Germany (.20)
	2002	France (.51/.40)	Poland (.49/.38)	Hungary (.22)
	2006	Poland (.53/.47)	Hungary (.47/.40)	Germany (.13)
	2010	Poland (.51/.43)	Hungary (.49/.41)	Romania (.14)
	2013	Poland (.53/.51)	Hungary (.47/.45)	Germany (.05)
Denmark	1998	Germany (.65/.60)	France (.35/.30)	Norway (.08)
	2001	Germany (.62/.55)	France (.38/.34)	Finland (.11)
	2005	Sweden (.59/.44)	UK (.41/.29)	Norway (.23)
	2007	Sweden (.51/.38)	UK (.49/.37)	Norway (.24)
	2011	Sweden (.56/.54)	Norway (.44/.42)	Finland (.03)
	2015	Sweden (.73/.59)	Finland (.27/.22)	UK (.20)
Estonia	1995	Latvia (.68/.64)	Lithuania (.32/.30)	Poland (.05)
	1999	Lithuania (.51/.48)	Latvia (.49/.46)	Poland (.03)
	2003	Lithuania (.53/.49)	Latvia (.47/.39)	Poland (.03)
	2007	Lithuania (.51/.38)	Latvia (.49/.27)	Poland (.11)
	2011	Latvia (.51/.49)	Lithuania (.49/.45)	Poland (.04)
	2015	Latvia (.55/.53)	Lithuania (.45/.43)	Poland (.03)
Finland	2003	Norway (.55/.50)	Sweden (.45/.40)	UK (.10)
	2007	Sweden (.74/.61)	Norway (.26/.21)	Germany (.18)
	2011	Sweden (.76/.65)	Norway (.24/.19)	UK (.16)
	2015	Sweden (.75/.62)	UK (.25/.20)	Norway (.18)
Germany	2002	France (.51/.46)	UK (.49/.45)	Italy (.08)
	2005	UK (.51/.49)	France (.49/.48)	Italy (.02)
	2009	France (.65/.64)	UK (.35/.33)	Italy (.03)
	2013	France (.52/.45)	UK (.48/.40)	Italy (.16)
Greece	2004	UK (.56/.40)	Germany (.44/.32)	Italy (.28)
	2007	UK (.68/.53)	Germany (.32/.24)	France (.23)
	2009	UK (.61/.53)	France (.39/.29)	Germany (.27)
	2012	UK (.91/.75)	France (.09/.19)	Germany (.06)
	2015	France (.87/.80)	Germany (.13/.15)	UK (.09)