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Citation for published version:

Daoust, J-F & Nadeau, R 2020, 'Context matters: Economics, politics and satisfaction with democracy', *Electoral Studies*, vol. 102113, pp. 1-6. <https://doi.org/10.1016/j.electstud.2020.102133>

Digital Object Identifier (DOI):

[10.1016/j.electstud.2020.102133](https://doi.org/10.1016/j.electstud.2020.102133)

Link:

[Link to publication record in Edinburgh Research Explorer](#)

Document Version:

Peer reviewed version

Published In:

Electoral Studies

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Abstract

Economic and political considerations are important in determining citizens' level of satisfaction with their democratic system, but research analyzing which criteria prevail in which contexts is still limited. We examine under what conditions citizens chiefly rely on economic or political considerations in assessing their level of satisfaction with democracy. Using the Comparative Study of Electoral Systems dataset covering 72 elections in 45 unique countries (1996 to 2016), we show that the relative weight of economic and political criteria in citizens' evaluation of their democratic regime is a function of their nation's affluence. On the one hand, citizens in poorer countries mostly rely on the economy to assess their level of satisfaction with democracy. On the other hand, political considerations are crucial in citizens' evaluations of richer societies. Our results entail strong implications to understand why citizens' recipes for satisfaction for democracy vary across time and space.

Keywords: Satisfaction with democracy; Economy; Democracy; Affluence; Comparative politics.

Performance theories hypothesize that democratic legitimacy is mainly determined by citizens' belief that democracy can deliver "good outcomes" (Rogowski 1974; Anderson et al. 2005). Though the performance criterion is often defined in economic terms¹, social scientists have more recently shown that citizens' assessments of their democratic institutions also depends on the production of "a diffuse basket of political goods", including freedom and responsiveness (Huang et al. 2008: 51). However, social scientists still lack a clear characterization of the conditions under which citizens prioritize economic or political criteria when evaluating the performance of their democratic system.

We argue in this research that a nation's affluence is a key contextual factor determining the relative weight of economic and political criteria in individuals' assessments of democracies. To test this claim, we use the Comparative Study of Electoral Systems (CSES) which provides data from 72 elections (45 unique countries) over a period of 20 years going from 1996 to 2016. Results neatly confirm the importance of the contextual effect of nations' affluence. That is, in poorer countries, we find clear evidence that citizens chiefly rely on the economy to assess their level of satisfaction with democracy (SWD) while political considerations play a prominent role in voters' evaluations of their political system in richer societies.

Macro Contexts and Citizens' Recipes for Satisfaction with Democracy

Scholars have shown that citizens make "separate and correct" distinctions between baskets of "economic and political goods" (Linz and Stepan 1996, 442) and that both types of outputs matter

¹ The literature linking satisfaction with democracy with economic performance is ubiquitous. Quaranta and Martini (2017, 661) posits that this relationship is to be expected "as in citizens opinion the notion of democratic regime often overlaps with the beliefs that it should be able to guarantee acceptable levels of affluence and prosperity."

in assessments of democratic institutions.² However, when and why one consideration will prevail over the other in citizens' judgments about democracy is still unclear.

Studies showing that individuals assess their political institutions differently across contexts provide a useful starting point to study these questions (Miller et al. 1997; Waldron-Moore 1999; Dalton et al. 2007; Mattes and Bratton 2007; Norris 2011). Particularly insightful is the idea that citizens tend to evaluate their political system based on its most salient aspects (Citrin et al. 2014; Reher 2015), a notion that Dalhberg et al. (2015, 22) nicely encapsulate when they wrote that “different types of democracies face different challenges, and we assume that this has consequences for explanations of democratic discontent.”

Two different strands of literature offer useful insights to understand under which circumstances economic considerations prevail over political criteria in citizens' assessments of their political institutions. First, the work on economic voting has shown that various contextual factors may contribute to moderate the impact of the economy on voting choices. Abundant research has demonstrated that citizens' behaviour as economic voter is shaped by the institutional context which contributes to make responsibility more or less easier to establish and hence to moderate the impact of economic perceptions on vote choice (Powell and Whitten 1993; Nadeau et al. 2002; Anderson 2006; Gélinau 2007; Lobo and Lewis-Beck 2012).³

² Christmann (2018: 79) is explicit on this point when he writes that many studies have shown that “respondents' evaluations of the economy and democracy are strongly related to SWD.”

³ The impact of the economy also appears to change during a government time in office. Larsen (2019) showed for instance that voters' stock of information about incumbents' performance increase with time and could eventually “crowd out” current economic conditions in voters' decision-making process.

The work examining across country variation in the salience of economic performance on citizens' voting decisions is particularly relevant. For instance, Singer observed, based on his analyses of the data from Module 2 of the CSES, that "the economy is more likely to dominate other issues under conditions of...economic underdevelopment" (2011, 284).⁴ Examining the cross-national variation salience of economic considerations, Singer claim (302) that "of the 15 countries where economics were most frequently mentioned as important issues, only 4 are located in North America and Western Europe. In contrast, of the 20 elections where economics were least likely to be mentioned as important, only 2 are from countries outside the OECD." Burlacu's (2014) study is also insightful since she examines the existence of a trade-off between perceptions of good governance and economic performance in citizens' vote choice calculus across countries with different levels of development. She concludes (2014, 180, 183) that "the salience and the role of the economy vary systematically with different levels of economic development" noting in particular that its smaller effect in highly developed economy "may indicate that voters in these countries weigh other factors more in their decisions."⁵

The second strand of work that is relevant for our purpose is formed of studies that directly examine citizens' assessments of political institutions. A common theme of this literature concerns the interaction between economic and political determinants of citizens' satisfaction with democracy. Magalhaes (2016, 522) neatly summarizes this perspective when he writes that: "economic evaluations matter, but they do not matter in the same way in all contexts and for all people." In this

⁴ Singer concludes from analyses of citizens' vote choice (2011: 302) that economic issues are noticeably important in poorer democracies than in developed ones, noting in particular that "the probability of focusing on economics is .24 lower in developed countries."

⁵ The preceding results should not obliterate the fact the economic concerns could also be highly salient in developed countries when they face economic downturns (on the relationship between economic short-term fluctuations and changes in the public agenda in developed nations, see Behr and Iyengar 1985; Armingeon and Guthman 2014; Bélanger and Nadeau 2015; Denison 2019). Our general point is that, all else equals, economic concerns will be more salient and politically consequential in less developed countries.

perspective, studies based on European and Latin American datasets have suggested that the impact of economic factors on assessments of democratic institutions may be moderated by perceptions about procedural fairness, a country's party system fractionalization and the level of government engagement in the economy (Magalhaes 2016; Kestilä-Kekkonen and Söderlund 2017; Tang and Hue, forthcoming).

One of the key contextual factors susceptible to moderate the relative impact of economic and political factors in citizens' assessments of democratic institutions appears to be a country's level of affluence. Adopting a macro salience perspective, Rohrschneider and Loveless (2010, 1032) argue that "a country macro context directs individuals to pay more attention to the most pressing societal problems and deemphasize issues that are less pressing." Based on this notion, they contend that "the exact weight that citizens attach to the economy...depends on national affluence", noting in particular that citizens will attach more importance to economic considerations when a country is less affluent, whereas material concerns should be less likely to affect political judgments in more affluent countries where "material concerns are less salient to political actors and citizens" (Ibid). These findings are echoing Lühiste's results (2014, 799) who finds "an interaction between economic affluence at the national level and the impact of individual economic evaluations" on citizens' evaluations with democracy as well as Magalhaes's observation (2016, 528) that his analyses confirm "previous findings concerning the stronger effect of economic evaluations [on satisfaction with democracy] in poorer societies."

The previous work suggests that economic considerations play a more important role in the formation of citizens' political choices and opinions in poorer societies. Various explanations can

help in turn to understand why political considerations are more important in richer countries. First, economic issues should be less salient for individuals in affluent nations since they are less exposed to the types of circumstances that make material considerations more pressing in developing countries (Rodrick 2001; Rohrschneider and Loveless 2010; Singer 2011). Second, political considerations should matter more in richer nations as a considerable body of work has shown that economic development sustains the quality of democratic institutions and make citizens focusing more on political processes and perceptions of elites' responsiveness to their concerns (Lipset 1959, Linz and Stepan 1996; Dalton et al 2007; Rohrschneider and Loveless 2010; Norris 2011; Dahlberg et al 2015; Reher 2015). Third, economic concerns should be less present and political considerations more visible in public debates in affluent nations given that the media and political parties tend to take their cues from voters and emphasize issues that are salient in the minds of citizens (Ansolabehere and Iyengar 1994; Klüver and Sagarzazu 2016), a point that Barlacu (2014: 179) nicely encapsulates when she wrote that “in wealthy countries, other factors than the economic growth get on the public agenda during the elections.” The preceding considerations, and arguments derived from theories of issue salience (Krosnick 1990; Fournier et al. 2003; Chong and Druckman 2007; Rohrschneider and Loveless 2010) or information theory of attitude formation (Higgins and King 1981; Bizer and Krosnick 2001) neatly suggest that political considerations should be more accessible and relevant to citizens in richer countries in assessing their political institutions.

The previous sets of arguments about the stronger impact of political considerations in richer nations rest in large part on the notion that greater affluence may provoke changes in the views and priorities of citizens and hence in the criteria they used to assess democratic institutions. Lipset (1959: 83-86) in his seminal work about “the social requisites of democracy” examined this hypothesis and came to the conclusion that “the general income level of a nation will also affect its

receptivity to democratic political norms” which may explain why “the overall wealth of the society is a basic condition sustaining democracy.” Inglehart initiated a decade later a series of important work linking economic growth to a shift in citizens’ priorities in highly developed countries from ensuring their basic economic needs to other non-material goals emphasizing individual autonomy and self-expression (Inglehart 1971, 1977; 1990). This thesis is consistent with the idea that affluence and material security contribute to make goals like self-recognition and self-expression more relevant for citizens in richer societies when they assess their political institutions (Inglehart 1990; Davis 2000; Newman 2002; Dalton and Welzel 2014).⁶ This “shift” from prioritizing self-protection to emphasizing self-expression suggests that citizens in richer nations put less weight on economic goods and attach more importance to political goods like electoral responsiveness in evaluating their political institutions (Lin 1999; Davis 2000; Huang et al. 2008; Lühiste 2014).

Building from these insights, we hypothesize that a countries’ level of affluence represents a key contextual factor determining the salience of material conditions and political considerations in public debates about democratic institutions. In poorer countries, the centrality of economic concerns in individuals’ life and societal debates lead citizens to prioritize material considerations in their assessments of democracy. In richer societies, the importance of goals like self-expression and the higher profile of political considerations in collective deliberations lead citizens to prioritize political factors in evaluating their system. If this argument holds true, we should observe a negative relationship between a nation’s affluence and the relative weight of economic compared to political considerations in citizens’ assessments of democratic institutions.⁷

⁶ Our argument bears resemblance with Inglehart’s theory but only assumes that the context will make economic or political concerns more relevant (for a similar argument, see Rohrschneider and Loveless 2010).

⁷ This hypothesis is consistent with various theoretical perspectives including the “expectancy value” model which characterizes political attitudes as a sum of considerations whose weights are largely determined by contexts and information environments priming subsets leading individuals to focus on subsets of them in assessing political objects

Data and variables

As we are primarily interested at predicting under what contexts citizens prioritize economic or political considerations in assessing the performance of their democratic system, we rely on the data coming from the Comparative Study of Electoral Systems. The CSES covers worldwide elections from 1996 to 2001 (Module 1) and 2011 to 2016 (Module 4).⁸ Our analysis includes 72 elections held in 45 different democracies.⁹ Surveys are post-electoral and include about 1500 respondents per election. For more details about the surveys, see the CSES' detailed methodological notes on their website (www.cses.org). Below, we describe our main indicators of interest and detailed descriptive statistics for each variable can be found in Table A1 of the Supplementary Material.

Satisfaction with democracy: Our dependent variable is a widely-used survey instrument measuring citizens' level of satisfaction with democracy. The question wording is "On the whole, are you very satisfied, fairly satisfied, not very satisfied or not satisfied at all with the way democracy works in [COUNTRY]?" Despite its limitations, this item is recognized as an indicator of citizens' assessments of how well their democratic system works in practice (Linde and Ekman, 2003, 391; Mattes and Bratton, 2007: 194, note 3).

Affluence: We resort to the (logged) GDP per capita adjusted for Purchasing Power Parity from the World Bank to measure a nation's affluence.¹⁰

Economic perceptions: We rely on citizens' perceptions on the state of the economy in the past twelve months. Using this standard measure of sociotropic and retrospective economic perceptions appears sensible since this item outperforms other economic indicators in explaining citizens' level

(Chong and Druckman 2007). It is also consistent with the literature showing that citizens' perceptions about issues are grounded in reality (Nadeau et al. 2013; Norris et al. 2018) and in line with Dennison's conclusion based on his extensive review of the literature on issue salience stating that "real-world effects on salience....have thus far been strongly empirically supported (2019, 8).

⁸ We are restricted to these two modules for the simple reason that measures of economic perceptions are only available in modules 1 and 4.

⁹ The list of countries included in our sample is displayed in Appendix.

¹⁰ Sources: World Bank, GDP per capita, PPP (constant 2011 international \$). International Comparison Program database (Accessed 30 January 2020). We also performed analyses with the GDP, per capita. Source: World Bank, GDP per capita (constant 2011 US\$). World Bank national accounts data and OECD National Accounts data files (Accessed 30 January 2020).

of satisfaction with democracy (Armingeon and Guthman, 2014). We use the three categories (better, about the same, worse) as linear.¹¹

Political efficacy: To measure individuals' subjective perceptions of being politically represented, we used a question that measures which is usually labelled as political (external) efficacy. This item reads as follow: "Some people say that no matter who people vote for, it won't make any difference to what happens. Others say that what people vote for can make a difference to what happens. Using the scale on this card (where one means that voting won't make a difference to what happens and 5 means that voting can make a difference), where would you place yourself?"¹² The theoretical richness and encompassing nature of this item is well-recognized. Aarts and Thomassen (2008, 9) refer to it as tapping "perceptions of accountability" whereas Kittilsen and Anderson (2011, 35) interpret it as a measure of external efficacy which "measures citizens' sense that their participation matters to the political process that elections lead to responsiveness to citizens demands."

On the top of our variables of interest, we minimize an omitted variable bias by including covariates that are theoretically related to both the outcome (SWD) and our key independent variables of interest. We include socio-economic variables (age, sex, education and income's quintiles). At the micro level, we include variables measuring whether the respondent voted for a party in government (winners) or a party in the opposition (losers) with non-voters as the omitted category (Stiers et al. 2018). At the macro level, we include a dichotomous variable for majoritarian system, the level of corruption, the degree of income inequality (using Gini index) and the GDP (purchase power parity) per capita growth rate measured six months before the election (Anderson et al. 2005; Donovan and Karp 2017; Lewis-Beck and Stegmaier 2013; Nannestad and Paldam 1994).¹³ Refusals and "don't know" responses were excluded.

¹¹ There is no evidence of non-linear effect on satisfaction with democracy in our data. That is, when we use economic perceptions as a categorical variable with 'about the same' as the reference category, we find symmetrical effects for positive perceptions (compared to 'about the same') and negative perceptions (compared to 'about the same').

¹² Merging this variable into three categories does not change any of our substantive conclusions.

¹³ Level of corruption comes from Transparency International, Corruption Perceptions Index (Accessed 30 January 2020). Gini index comes from World Bank, GINI index. World Bank estimates (Accessed 30 January 2020).

Empirical Analyses

As a first cut to examine our central hypothesis, we ran 72 OLS regressions for every 72 elections in our dataset.¹⁴ Hence, we obtained 72 coefficients for the ‘Economy’ and ‘Political efficacy’ variables. As our central claim posits that the relative weight of economic and political considerations in citizens’ assessments of their democratic regime is a function of a nation’s affluence, we plotted in Figure 1 the coefficients of our two variables of interest across the different levels of affluence.

Both trends are clear from eyeballing Figure 1. On the one hand, economic perceptions are more important in poorer societies, as shown by the negative relationship. On the other hand, political efficacy (the sense of responsiveness) is more important in richer societies, as shown by the positive relationship. Figure clearly suggests that the relative impact of both factors in explaining citizens’ level of SWD varies across countries according to their level of affluence.

¹⁴ We ran OLS regressions in each country predicting satisfaction with democracy with the following variables: age, sex, education, income, winner/loser (reference is abstained), economic evaluations and political efficacy.

Figure 1. Political and economic considerations in citizens' evaluation of SWD

Note: Each dot represents the value of the coefficient for “Economic perceptions” (circle) or “Political efficacy” (triangle) in one of the 72 election.

Using an alternative approach, we also test our central hypothesis with pooled data. Given that we make use of data from 72 election nested in 45 different countries, we ran mixed linear effects regressions where individuals are at level 1 while elections are at level 2. We specify a random intercept for economic evaluations and political efficacy. Table 1 presents the results.

Table 1. Satisfaction with democracy and its determinants across levels of wealth

	Model 1	Model 2
Log GDP (ppp) per capita X		-0.20**
Economic perceptions		(0.06)
Log GDP (ppp) per capita X		0.15**
Political efficacy		(0.05)
Log GDP (ppp) per capita	0.10	0.14
	(0.12)	(0.15)
Economic perceptions	0.13***	0.21***
	(0.00)	(0.02)
Political efficacy	0.08***	0.02
	(0.00)	(0.02)
Age	0.01	0.01
	(0.01)	(0.00)
Sex (Man=1)	-0.00	0.00
	(0.00)	(0.00)
Education	0.01*	0.01*
	(0.00)	(0.00)
Income	0.04***	0.04***
	(0.00)	(0.00)
Loser (ref=abstainer)	0.01**	0.01**
	(0.00)	(0.00)
Winner (ref=abstainer)	0.06***	0.06***
	(0.00)	(0.00)
GDP (ppp) per capita growth	0.01	0.01
	(0.00)	(0.01)
Majoritarian electoral system (ref=PR and mixed)	-0.03	-0.04
	(0.02)	(0.03)
Gini index	0.10	0.07
	(0.06)	(0.08)
Corruption index	0.24***	0.20**
	(0.06)	(0.08)
Constant	0.16***	0.18**
	(0.05)	(0.06)
σ^2 elections	-2.48***	-2.59***
	(0.08)	(0.09)
σ^2 Economic perceptions		-2.92***
		(0.10)
σ^2 Political efficacy		-2.29***
		(0.09)
(N) Individuals	83008	83008
(N) Elections	72	72

Note: Coefficients and standard errors of mixed effects linear models. Significance levels: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Model 1 displays the results of a baseline model without interaction terms. The coefficients are in the expected direction. That is, citizens with greater level of political efficacy and optimistic about the economy are substantially more satisfied with the way democracy works. Model 2 introduces

two interaction terms that is, logged GDP (ppp) per capita x Economy and logged GDP (ppp) per capita x Political efficacy. The interaction term between GDP and Economy is negative and statistically significant at $p < .001$. This means that the role of economic perceptions in explaining SWD diminishes in richer societies compared to poorer ones. Furthermore, the interaction of GDP and Responsiveness is positive and also statistically significant at $p < .01$. This means that the importance of political considerations in explaining SWD increases with a nation's level of affluence.

The coefficients confirm our two main claims. But how substantial are these effects? Figure 2 shows the magnitude of these effects. From the line made with circles, we see that the marginal effect of economic perceptions on SWD is substantively larger where GDP is low and substantially lower for richer countries. From the line made with squares, the slope shows that the marginal effect of perceived responsiveness on SWD is much lower in poorer societies and significantly larger in affluent ones. For economic considerations, the average marginal effect ranges from .21 to .07 going from the minimum to the maximum level of affluence in our dataset. This total effect of 14 points is very important. For political considerations, the maximum effect ranges from .02 at the minimum level of affluence to .12 at the maximum, for a total effect (of .1) that is slightly less important than for economic considerations.

Figure 2. The relative weights of economic and political considerations

Note: Estimations based on Model 2 of Table 1.

In the end, our findings clearly suggest that the set of considerations driving citizens' judgment about democracy are more economically-oriented in poor countries, more politically-oriented in the wealthiest nations and mixed in societies exhibiting an average level of socio-economic development. Most importantly, these effects are substantially important and they are robust, as we show in the next section.

Robustness Checks

Figures SM1 to SM6 (and Tables SM2 to SM7) of the Supplementary Material replicate our Figure 2 of the manuscript in many different ways. First, Figure SM1 shows that our results hold when we use different indicator of societies' affluence — when do not log the GDP (ppp) per capita, and also if we use a GDP per capita measure (not adjusted for the power of purchasing), logged or not. Second, results are very similar whether we use alternative approaches such as a three-level model where individuals are nested in elections which are in turn nested in countries (See Figure SM2), and also by replicating our main model using a mixed effects ordered logistic regression (Model 2 of Table SM3, as we would need to show eight different effects when using ordered logistic). Third, Figure SM3 shows that our results are robust when non-free democracies are excluded according to either V-DEM or Freedom House classifications.¹⁵ Fourth, Figure SM4 displays the results when we run module 1 and module 4 separately due to concerns raised by Bell et al. (2019) on the time (year) of the elections. Although we lose a lot (about half) of the variance on the wealth variable all four interaction terms are clearly in the expected direction, but results suggest that the moderation effect of wealth on the economic perceptions is slightly more important in module 1. Overall, they both offer important support to our two main claims. Moreover, it is worth mentioning that adding a dichotomous variable for Module 4 does not alter our interaction terms. Fifth, given fair concerns raised by Lenz and Sahn (2019) regarding the inclusion of covariates, we show in Figure SM5 that minimal models display extremely similar results. Sixth, to account for a potential generational

¹⁵ Sources for V-DEM: Dataset v8. Freedom House: Freedom in the World: Aggregate and Subcategory Scores (Accessed 30 January 2020), see their website. The indicator used is the mean of the Political Rights Rating and Civil Liberties Rating. We use the .5 for the VDEM index because it represents “a threshold...beyond which countries tend to be considered electoral democracies in the minimal sense.” (Coppedge et al 2019, 113). The threshold used for the Freedom House index is straightforward and corresponds to countries classified as “non-free”.

replacement effects that would drive our findings, we reestimated our model by sorting out respondents aged between 18 to 44 and 45+ and show that the results are very consistent in both cases — see Figure SM6.

Conclusion

Scholars' interest for the respective role of economic and political considerations in citizens' judgments about democracy has been long-lasting (Lipset, 1959). Recently, efforts have been made to explain when and why either type of criteria prevails in individuals' evaluations of the performance of their political institutions (Rohrschneider and Loveless, 2010; Magalhaes 2016; Christmann 2018). We picked up on this literature with the sake of providing a parsimonious model explaining across country variations in citizens' judgments about the way their democracy works in practice. We argue that individuals' level of satisfaction with democracy depends on the authorities' ability to deliver satisfactory economic and political goods. More crucially, we claim that the relative weight of economic over political considerations will vary across countries according to their level of affluence.

Data from the CSES's modules 1 and 4 covering 45 countries and 72 elections confirm that citizens' judgments of their democratic system are chiefly based on economic matters in poorer countries and mostly formed on the basis of political considerations in affluent nations. These findings suggest that material considerations are primed in societal debates in poorer countries and less so in richer nations. This may explain why citizens' recipe for satisfaction with their

democratic institutions is more economically-oriented in less affluent nations and more politically-driven in their richer counterparts.¹⁶

Our findings thus confirm that SWD is driven by authorities' ability to deliver economic and political goods that citizens want. But most importantly, it shows that country contexts change the focus of citizens when they evaluate their political institutions. If the provision of economic goods is insufficient, economic preoccupations will outperform political considerations in driving their judgments. If the needs for economic goods are more adequately fulfilled, citizens' thinking about their democratic regime will tilt towards political considerations. The overall conclusion is clear. In richer societies, economic concerns lose ground, relative to political considerations, in their capacity to make people satisfied with the way their democratic system works. Our model offers a parsimonious account of the factors explaining why citizens' judgments about their democratic institutions vary across contexts. That being said, the task of finding why these assessments are changing over time and space will always remain a demanding challenge.

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¹⁶ The expression "recipe" is borrowed from the work focusing on the contribution of specific life domains to overall satisfaction with life (Dehey, 2010).

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Supplementary Material

Context Matters: Economics, Politics and Satisfaction with Democracy

Electoral Studies

Description of the elections (CSES module 1 & 4)

Australia, 1996 (1), Australia, 2013 (2), Austria, 2013 (3), Belgium 1999 (4), Brazil, 2014 (5), Bulgaria, 2014 (6), Belarus, 2001 (7), Canada, 1997 (8), Canada 2011 (9), Canada, 2015 (10), Taiwan, 1996 (11), Taiwan, 2012 (12), Czech Republic, 1996 (13), Czech Republic, 2013 (14), Denmark, 1998 (15), Finland, 2015 (16), France, 2012 (17), Germany, 1998 (18), Germany, 2013 (19), Greece, 2012 (20), Greece, 2015 (21), Hungary, 1998 (22), Iceland, 1999 (23), Iceland, 2013 (24), Ireland, 2011 (25), Israel, 1996 (26), Israel, 2013 (27), Japan, 1996 (28), Japon, 2013 (29) Kenya, 2013 (30), South Korea, 2000 (31), Latvia, 2011 (32), Latvia, 2014 (33), Lithuania, 1997 (34), Mexico, 1997 (35), Mexico, 2000 (36), Mexico, 2012 (37), Mexico, 2015 (38), Montenegro, 2015 (39), Netherlands, 1998 (40), New Zealand, 1996 (41), New Zealand, 2011 (42), New Zealand, 2014 (43), Norway, 1997 (44), Norway 2013 (45), Peru, 2016 (46), Philippines, 2016 (47), Poland, 1997 (48), Poland, 2011 (49), Portugal, 2002 (50), Portugal, 2015 (51), Romania, 1996 (52), Romania, 2012 (53), Romania, 2014 (54), Russian Federation 1999 (55), Serbia, 2012 (56), Slovakia, 2016 (57), Slovenia, 1996 (58), Slovenia, 2011 (59), South Africa, 2014 (60), Spain, 1996 (61), Spain, 2000 (62), Sweden, 1998 (63), Sweden, 2014 (64), Switzerland, 1999 (65), Switzerland, 2011 (66), Thailand, 2011 (67), Turkey, 2015 (68), Great Britain, 1997 (69), Great Britain, 2015 (70), USA, 1996 (71), USA, 2012 (72).

Table SM1: Descriptive statistics

	Minimum	Mean	Std. Dev.	Maximum
<i>Individual-level variables</i>				
Satisfaction with democracy	0	.53	.28	1
Age	0	.34	.19	1
Sex (Man=1)	0	.48	.5	1
Education	0	.53	.24	1
Income	0	.48	.35	1
Winner	0	.41	.49	1
Loser	0	.40	.49	1
Abstainer	0	.19	.36	1
Economic perceptions	0	.44	.37	1
Political efficacy	0	.72	.31	1
<i>Macro-level variables</i>				
Majoritarian	0	.49	.5	1
Gini	0	.27	.18	1
Corruption	0	.58	.30	1
Log of GDP (ppp) per capita	0	0	.37	.7
Growth of GDP (ppp) per capita	-6.8	2.33	2.21	9.09

Figure SM1. Alternative indicators of wealth

Note: based on Table SM2, models 1, 2 and 3

Figure SM2. Alternative estimation technique

Note: based on Table SM3, model 1.

Figure SM3. Subsamples of elections (free democracies)

Note: based on Table SM4, models 1, and 2

Figure SM4. Modules 1 and 4 separately

Note: based on Table SM5, models 1, and 2

Figure SM5. Excluding covariates

Note: based on Table SM6, models 1, 2, 3 and 4

Figure SM6. Generation effects

Note: based on Table SM7, models 1, and 2

Table SM2: Alternative indicator of wealth

	Model 1	Model 2	Model 3
Where wealth=	GDP (ppp) per capita	GDP per capita	Logged GDP per capital
Wealth X Economic perceptions	-0.14***	-0.13***	-0.17***
	(0.04)	(0.04)	(0.05)
Wealth X Political efficacy	0.11***	0.11***	0.15***
	(0.03)	(0.03)	(0.04)
Economic perceptions	0.20***	0.18***	0.18***
	(0.02)	(0.02)	(0.02)
Political efficacy	0.02	0.03*	0.03
	(0.02)	(0.01)	(0.01)
Wealth	0.13	0.20*	0.25
	(0.11)	(0.09)	(0.14)
Age	0.01	0.01	0.01
	(0.00)	(0.01)	(0.01)
Sex (Man=1)	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)
Education	0.01*	0.01**	0.01**
	(0.00)	(0.00)	(0.00)
Income	0.04***	0.04***	0.04***
	(0.00)	(0.00)	(0.00)
Loser (ref=abstainer)	0.01**	0.01**	0.01**
	(0.00)	(0.00)	(0.00)
Winner (ref=abstainer)	0.06***	0.06***	0.06***
	(0.00)	(0.00)	(0.00)
Wealth growth	0.01	0.00	0.00
	(0.01)	(0.00)	(0.00)
Majoritarian electoral system (ref=PR and mixed)	-0.04	-0.05*	-0.05
	(0.03)	(0.03)	(0.03)
Gini index	0.07	0.04	0.04
	(0.08)	(0.08)	(0.08)
Corruption index	0.18*	0.09	0.10
	(0.08)	(0.08)	(0.09)
Constant	0.18***	0.26***	0.25***
	(0.05)	(0.05)	(0.05)
σ^2 elections	-2.60***	-2.66***	-2.66***
	(0.09)	(0.10)	(0.10)
σ^2 Economic perceptions	-2.93***	-2.93***	-2.93***
	(0.10)	(0.10)	(0.10)
σ^2 Political efficacy	-2.30***	-2.31***	-2.30***
	(0.09)	(0.09)	(0.09)
(N) Individuals	83008	80521	80521
(N) Elections	72	69	69

Note: Coefficients and standard errors (in parentheses) are estimated using a mixed effect linear model.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table SM3: Alternative estimation techniques

	Model 1	Model 2
Log GDP (ppp) per capita X	-0.20**	-1.61**
Economic perceptions	(0.06)	(0.49)
Log GDP (ppp) per capita X	0.15***	1.95***
Political efficacy	(0.05)	(0.36)
Economic perceptions	0.21***	1.67***
	(0.02)	(0.19)
Political efficacy	0.02	-0.12
	(0.02)	(0.14)
Log GDP (ppp) per capita	-0.15	2.59***
	(0.15)	(0.79)
Age	0.01	0.08
	(0.00)	(0.04)
Sex (Man=1)	0.00	0.02
	(0.00)	(0.01)
Education	0.01*	0.08*
	(0.00)	(0.03)
Income	0.04***	0.31***
	(0.00)	(0.02)
Loser (ref=abstainer)	0.01**	0.05*
	(0.00)	(0.02)
Winner (ref=abstainer)	0.06***	0.48***
	(0.00)	(0.02)
GDP (ppp) per capita growth	0.01	0.04
	(0.01)	(0.03)
Majoritarian electoral system (ref=PR and mixed)	-0.05	-0.43***
	(0.03)	(0.12)
Gini index	0.09	-0.11
	(0.09)	(0.42)
Corruption index	0.31***	0.97**
	(0.09)	(0.33)
Cut 1		0.15
		(0.32)
Cut 2		2.22***
		(0.32)
Cut 3		5.16***
		(0.32)
Constant	0.23***	
	(0.06)	
σ^2 Country	-2.44***	
	(0.19)	
σ^2 elections	-2.59***	
	(0.09)	
σ^2 Economic perceptions	-2.92***	0.37***
	(0.10)	(0.07)
σ^2 Political efficacy	-2.76***	0.29***
	(0.18)	(0.06)
(N) Individuals	83008	83008
(N) Elections	72	72
(N) Countries	45	n/a

Note: Standard errors in parenthesis. Model 1 is a mixed effects linear model where individuals (level 1) are nested in elections (level 2) which are nested in countries (level 3). Model 2 is a mixed effect ordered logistic regression.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table SM4: Subsamples of elections

	Model 1	Model 3
Criterion=	V-Dem>.5	Freedom House <3
Log GDP (ppp) per capita X	-0.27***	-0.27***
Economic perceptions	(0.05)	(0.05)
Log GDP (ppp) per capita X	0.15**	0.18***
Political efficacy	(0.05)	(0.05)
Economic perceptions	0.23***	0.23***
	(0.02)	(0.02)
Political efficacy	0.02	0.00
	(0.02)	(0.02)
Log GDP (ppp) per capita	0.40***	0.33*
	(0.12)	(0.13)
Age	0.01*	0.01
	(0.01)	(0.01)
Sex (Man=1)	0.00	0.00
	(0.00)	(0.00)
Education	0.02***	0.02***
	(0.00)	(0.00)
Income	0.04***	0.04***
	(0.00)	(0.00)
Loser (ref=abstainer)	0.01***	0.01***
	(0.00)	(0.00)
Winner (ref=abstainer)	0.06***	0.06***
	(0.00)	(0.00)
GDP (ppp) per capita growth	0.02***	0.01**
	(0.00)	(0.00)
Majoritarian electoral system (ref=PR and mixed)	0.00	-0.01
	(0.02)	(0.02)
Gini index	0.11	0.11
	(0.06)	(0.07)
Corruption	0.18**	0.16*
	(0.06)	(0.06)
Constant	0.02	0.09
	(0.05)	(0.05)
σ^2 Political elections	-2.90***	-2.88***
	(0.11)	(0.11)
σ^2 Economic perceptions	-2.96***	-2.92***
	(0.11)	(0.11)
σ^2 Political efficacy	-2.63***	-2.54***
	(0.10)	(0.10)
(N) Individuals	74901	74017
(N) Elections	63	63

Note: Coefficients and standard errors (in parentheses) are estimated using a mixed effect linear model.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table SM5: Module 1 and 4 separately

	Model 1	Model 2
	Module 1 only	Module 2 only
Log GDP (ppp) per capita X	-0.36***	-0.12
Economic perceptions	(0.08)	(0.08)
Log GDP (ppp) per capita X	0.11	0.17**
Political efficacy	(0.07)	(0.06)
Economic perceptions	0.25***	0.18***
	(0.03)	(0.03)
Political efficacy	0.02	0.02
	(0.03)	(0.02)
Log GDP (ppp) per capita	0.37*	0.05
	(0.18)	(0.22)
Age	0.01	-0.00
	(0.01)	(0.01)
Sex (Man=1)	0.01*	-0.00*
	(0.00)	(0.00)
Education	0.01	0.01*
	(0.01)	(0.01)
Income	0.04***	0.04***
	(0.00)	(0.00)
Loser (ref=abstainer)	0.02***	-0.00
	(0.00)	(0.00)
Winner (ref=abstainer)	0.05***	0.07***
	(0.00)	(0.00)
GDP (ppp) per capita growth	0.00	0.00
	(0.01)	(0.01)
Majoritarian electoral system	0.00	-0.07*
(ref=PR and mixed)	(0.03)	(0.04)
Gini index	0.11	0.05
	(0.11)	(0.10)
Corruption	0.13	0.19
	(0.09)	(0.12)
Constant	0.17*	0.24**
	(0.08)	(0.08)
σ^2 Political elections	-2.95***	-2.48***
	(0.15)	(0.12)
σ^2 Economic perceptions	-2.98***	-2.91***
	(0.16)	(0.13)
σ^2 Political efficacy	-2.63***	-2.24***
	(0.14)	(0.11)
(N) Individuals	39367	43641
(N) Elections	30	42

Note: Coefficients and standard errors (in parentheses) are estimated using a mixed effect linear model.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table SM6: Minimal models (excluding covariates)

	Module 1	Module 2	Module 3
	No control	Micro control	Macro control
Log GDP (ppp) per capita X	-0.22***	-0.21***	-0.22***
Economic perceptions	(0.06)	(0.06)	(0.06)
Log GDP (ppp) per capita X	0.13**	0.14**	0.13**
Political efficacy	(0.04)	(0.04)	(0.04)
Economic perceptions	0.22***	0.21***	0.22***
	(0.02)	(0.02)	(0.02)
Political efficacy	0.04*	0.02	0.04*
	(0.02)	(0.02)	(0.02)
Log GDP (ppp) per capita	0.41***	0.44***	0.09
	(0.09)	(0.09)	(0.15)
Loser (ref=abstainer)		0.01***	
		(0.00)	
Winner (ref=abstainer)		0.07***	
		(0.00)	
GDP (ppp) per capita growth		0.01	
		(0.01)	
Gini index			0.05
			(0.08)
Corruption			0.21**
			(0.08)
Constant	0.25***	0.20***	0.24***
	(0.03)	(0.04)	(0.05)
σ^2 Political elections	-2.61***	-2.66***	-2.61***
	(0.09)	(0.09)	(0.09)
σ^2 Economic perceptions	-2.94***	-2.98***	-2.94***
	(0.10)	(0.10)	(0.10)
σ^2 Political efficacy	-2.19***	-2.24***	-2.24***
	(0.09)	(0.09)	(0.09)
(N) Individuals	105258	100563	105258
(N) Elections	72	72	72

Note: Coefficients and standard errors (in parentheses) are estimated using a mixed effect linear model.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table SM7: Subsamples of age

	Model 1	Model 2
Subsample=	18-44 years old	45+ years old
Log GDP (ppp) per capita X	-0.19**	-0.21**
Economic perceptions	(0.06)	(0.06)
Log GDP (ppp) per capita X	0.13**	0.22***
Political efficacy	(0.05)	(0.05)
Economic perceptions	0.21***	0.21***
	(0.02)	(0.02)
Political efficacy	0.02	-0.01
	(0.02)	(0.02)
Log GDP (ppp) per capita	0.13	0.12
	(0.16)	(0.15)
Age	0.06***	-0.05*
	(0.01)	(0.02)
Sex (Man=1)	-0.00	0.00
	(0.00)	(0.00)
Education	-0.01	0.01
	(0.01)	(0.01)
Income	0.04***	0.06***
	(0.00)	(0.00)
Loser (ref=abstainer)	0.01**	0.01**
	(0.00)	(0.00)
Winner (ref=abstainer)	0.06***	0.07***
	(0.00)	(0.00)
GDP (ppp) per capita growth	0.01	0.01
	(0.01)	(0.01)
Majoritarian electoral system (ref=PR and mixed)	-0.05	-0.04
	(0.03)	(0.03)
Gini index	0.09	0.07
	(0.08)	(0.08)
Corruption	0.20**	0.18*
	(0.08)	(0.08)
Constant	0.16**	0.20***
	(0.06)	(0.06)
σ^2 Political elections	-2.58***	-2.59***
	(0.10)	(0.11)
σ^2 Economic perceptions	-2.92***	-2.99***
	(0.12)	(0.13)
σ^2 Political efficacy	-2.28***	-2.33***
	(0.09)	(0.09)
(N) Individuals	44271	31990
(N) Elections	72	72

Note: Coefficients and standard errors (in parentheses) are estimated using a mixed effect linear model.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$