Unsurprising Protests? The moderating effect of democratic institutions on protest and state concessions

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Abstract

Protest size, defined as the number of people a movement brings to the streets to protest, is the one of the strongest predictors of regime concessions. In this paper, I argue that seemingly democratic institutions provide autocratic regimes with information about the size and preferences of the opposition which moderates the effectiveness of increased protest size on concessions. Better information about potential dissent ex ante enables regimes to withstand larger protests without conceding to protesters. To test the argument, data was sourced from the Mass Mobilization in Autocracies database (MMAD) v4, Varieties of Democracy (V-Dem) v12, and Integrated Crisis Early Warnings System (ICEWS). I run country-fixed effects models on a panel of 15650 country-months. I find that the positive effect of increased protest participation on state concessions in autocracies is moderated by democratic institutions that provide regimes with information on the size, strength and preferences of the opposition.

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1 Introduction

What explains when anti-regime protests in autocracies are successful in reaching their goals? Several conditions have been identified, from the size and frequency of protests,[1] to protest diversity[2] and participation of key organizations[3] to the choice of nonviolent tactics.[4] However, the strongest predictor of protest success is how many people a movement brings to the streets.[5]

Protests are now happening at a higher rate than ever before, and yet, at the same time the effectiveness of all kinds of resistance against the state is declining.[6] This has made protest scholars call for a closer look at why previously assumed effective campaigns are becoming less successful. I present a counter-intuitive argument that can provide new insight on this puzzle; while democratic institutions in theory should make regimes more responsive to the masses, I argue that democratic institutions moderate the effectiveness of increased protest size in autocracies. In this paper, I

[1]Erica Chenoweth and Margherita Belgioioso. "The physics of dissent and the effects of movement momentum". en. In: *Nature Human Behaviour* 3.10 (Oct. 2019). Bandiera_abtest: a Cg_type: Nature Research Journals Number: 10 Primary_atype: Research Publisher: Nature Publishing Group Subject_term: Government;Social sciences Subject_term_id: government;social-sciences, pp. 1088–1095. ISSN: 2397-3374. DOI: 10.1038/s41562-019-0665-8. URL: https://www.nature.com/articles/s41562-019-0665-8 (visited on 08/20/2021); Kristian Skrede Gleditsch, Roman-Gabriel Olar, and Marius Radean. "Going, going, gone? Varieties of dissent and leader exit". en. In: *Journal of Peace Research* (Oct. 2022). Publisher: SAGE Publications Ltd, p. 00223433221092813. ISSN: 0022-3433. DOI: 10.1177/00223433221092813. URL: https://doi.org/10.1177/00223433221092813 (visited on 10/18/2022).

[2]Sirianne Dahlum. "Joining forces: Social coalitions and democratic revolutions". en. In: *Journal of Peace Research* 60.1 (Jan. 2023). Publisher: SAGE Publications Ltd, pp. 42–57. ISSN: 0022-3433. DOI: 10.1177/00223433221138614. URL: https://doi.org/10.1177/00223433221138614 (visited on 03/23/2023).

[3]Charles Butcher, John Laidlaw Gray, and Liesel Mitchell. "Striking It Free? Organized Labor and the Outcomes of Civil Resistance". en. In: *Journal of Global Security Studies* 3.3 (July 2018), pp. 302–321. ISSN: 2057-3170, 2057-3189. DOI: 10.1093/jogss/ogy010. URL: https://academic.oup.com/jogss/article/3/3/302/5053995 (visited on 03/23/2020); Jonathan Pinckney, Charles Butcher, and Jessica Maves Braithwaite. "Organizations, Resistance, and Democracy: How Civil Society Organizations Impact Democratization". In: *International Studies Quarterly* 66.1 (Mar. 2022), sqab094. ISSN: 0020-8833. DOI: 10.1093/isq/sqab094. URL: https://doi.org/10.1093/isq/sqab094 (visited on 02/17/2022).

[4]Mauricio Rivera Celestino and Kristian Skrede Gleditsch. "Fresh carnations or all thorn, no rose? Nonviolent campaigns and transitions in autocracies". In: *Journal of peace research* 50.3 (2013). Place: London, England Publisher: London, England: Sage Publications, pp. 385–400. ISSN: 0022-3433. DOI: 10.1177/0022343312469979; Erica Chenoweth and Maria J. Stephan. *Why Civil Resistance Works: The Strategic Logic of Nonviolent Conflict*. Pages: 320 Pages. Columbia University Press, Aug. 2011. ISBN: 978-0-231-52748-4; Sirianne Dahlum. "Students in the Streets: Education and Nonviolent Protest". In: *Comparative political studies* 52.2 (2019). Place: Los Angeles, CA Publisher: Los Angeles, CA: SAGE Publications, pp. 277–309. ISSN: 0010-4140. DOI: 10.1177/0010414018758761.

[5]Chenoweth and Stephan, see n. 4; James DeNardo. *Power in Numbers: The Political Strategy of Protest and Rebellion*. Princeton: Princeton University Press, 2014. ISBN: 978-1-4008-5502-5. URL: https://muse.jhu.edu/book/33633 (visited on 09/27/2021); Mark Irving Lichbach. *The rebel's dilemma*. eng. Economics, cognition, and society. Ann Arbor, Mich: University of Michigan Press, 1995. ISBN: 978-0-472-10532-8.

[6]Erica Chenoweth. "The Future of Nonviolent Resistance". en. In: *Journal of Democracy* 31.3 (2020), pp. 69–84. ISSN: 1086-3214. DOI: 10.1353/jod.2020.0046. URL: https://muse.jhu.edu/article/760088 (visited on 12/07/2020).

look at a short-term outcome of anti-regime protest success; concessions given by the state after protests. I define protest effectiveness as the probability that a protest will gain at least one concession from the regime. Building on the work of Lohmann,[7] I argue that the discrepancy between what autocratic leaders can know about opposition and what autocratic leaders learn about opposition through actualized dissent is smaller if the autocratic regime has access to similar information about the opposition through democratic institutions. I add democratic institutions as a parameter to existing explanations on the role of size in predicting movement success. If the role of protest is to reveal the magnitude of private preferences for regime opposition, these institutions condition the size of the revelation of new information about regime opposition as protests increase in size. Consequently, autocracies with democratic institutions have better information about which protests they can let grow without risk of being deposed, and the regime also have better information on how to deal with dissent as protests grow in size. Consequently, in autocratic regimes with more seemingly democratic institutions, the regime can concede less often compared to protests in more closed autocracies.

I test my propositions using generalized linear models with country-fixed effects on a country-month panel dataset with data on anti-regime protest participation from the Mass Mobilization in Autocracies database v4,[8] data on electoral democracy and its sub-indicators from V-Dem,[9] data on state concessions from Integrated Crisis Early Warnings (ICEWS) dataset[10] and a set of controls from world development indicators. The results support my hypotheses and are robust to a number of robustness checks. I also include a placebo test to test alternative mechanisms, and the results support that the relationship between protest size and protest success runs through the informational argument presented in this paper.

[7]Susanne Lohmann. "A Signaling Model of Informative and Manipulative Political Action". In: *The American Political Science Review* 87.2 (1993). Publisher: [American Political Science Association, Cambridge University Press], pp. 319–333. ISSN: 0003-0554. DOI: 10.2307/2939043. URL: https://www.jstor.org/stable/2939043 (visited on 05/24/2022).

[8]Nils B. Weidmann and Espen Geelmuyden Rød. *The Internet and political protest in autocracies*. eng. Oxford studies in digital politics. New York, NY: Oxford University Press, 2019. ISBN: 978-0-19-091831-6. DOI: 10.1093/oso/9780190918309.001.0001, chapter 4.

[9]Jan Teorell et al. *Measuring Electoral Democracy with V-Dem Data: Introducing a New Polyarchy Index*. en. SSRN Scholarly Paper ID 2740935. Rochester, NY: Social Science Research Network, Mar. 2016. DOI: 10.2139/ssrn.2740935. URL: https://papers.ssrn.com/abstract=2740935 (visited on 03/23/2020).

[10]Elizabeth Boschee et al. *ICEWS Coded Event Data*. en. Jan. 2023. DOI: 10.7910/DVN/28075. URL: https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/28075 (visited on 02/02/2023).

The paper provides a potential explanation to the puzzling decline of civil resistance effectiveness. The theoretical argument can help us understand how institutions shape bargaining dynamics between protesters and the regime in autocracies, and under which conditions we would expect protest to change regime behaviour. Information-providing institutions provide autocratic regimes with higher-quality information about the opposition compared to autocracies without this information. Taking institutions seriously can help us understand the function seemingly democratic institutions play in autocracies, and how democratic institutions, instead of making regimes conducive to the masses, can sometimes can help autocrats withstand mobilization over time. Protests are more likely to lead to concessions when they reveal new information about the regime's probability of staying in power.

2 Previous research on anti-regime protest and the role of size in explaining movement success

There is a large body of research that explain when anti-regime protests are more likely to gain concessions[11] or overthrow autocratic governments and bring about regime change.[12] Although there are several factors that can explain the success and failure of civil resistance, one recurring explanatory variable is protest size. Movement size is a strong predictor of movement success.[13]

[11]Charles Butcher and Jonathan Pinckney. "Friday on My Mind: Re-Assessing the Impact of Protest Size on Government Concessions". en. In: *Journal of Conflict Resolution* (May 2022). Publisher: SAGE Publications Inc, p. 00220027221099887. ISSN: 0022-0027. DOI: 10.1177/00220027221099887. URL: https://doi.org/10.1177/00220027221099887 (visited on 05/24/2022); Nam Kyu Kim. "Anti-regime Uprisings and the Emergence of Electoral Authoritarianism". In: *Political Research Quarterly* 70.1 (2017). Publisher: [University of Utah, Sage Publications, Inc.], pp. 111–126. ISSN: 1065-9129. URL: https://www.jstor.org/stable/26384904 (visited on 04/23/2024); Lisa Mueller. "Crowd Cohesion and Protest Outcomes". en. In: *American Journal of Political Science* n/a.n/a (). _eprint: https://onlinelibrary.wiley.com/doi/pdf/10.1111/ajps.12725. ISSN: 1540-5907. DOI: 10.1111/ajps.12725. URL: https://onlinelibrary.wiley.com/doi/abs/10.1111/ajps.12725 (visited on 10/20/2022).

[12]Michael Bratton and Nicolas Van de Walle. "Neopatrimonial Regimes and Political Transitions in Africa". In: *World Politics* 46.4 (1994). Publisher: Cambridge University Press, pp. 453–489. ISSN: 0043-8871. DOI: 10.2307/2950715. URL: https://www.jstor.org/stable/2950715 (visited on 10/12/2020); Celestino and Gleditsch, see n. 4; Chenoweth and Stephan, see n. 4; Daniel Lambach et al. *Nonviolent Resistance and Democratic Consolidation.* eng. Cham: Palgrave Macmillan US, 2020. ISBN: 978-3-030-39371-7; Jonathan Pinckney. *From Dissent to Democracy: The Promise and Perils of Civil Resistance Transitions.* Oxford, New York: Oxford University Press, 2020. ISBN: 978-0-19-009730-1.

[13]Chenoweth and Belgioioso, see n. 1; Erica Chenoweth, Andrew Hocking, and Zoe Marks. "A dynamic model of nonviolent resistance strategy". en. In: *PLOS ONE* 17.7 (July 2022). Publisher: Public Library of Science, e0269976. ISSN: 1932-6203. DOI: 10.1371/journal.pone.0269976. URL: https://journals.plos.org/

There are two sets of explanations for why protests become more likely to success in changing regime behaviour and regime outcomes as they grow in size; cost mechanisms and signalling mechanisms. Cost mechanisms typically focus on how costly it is for the regime to ignore or repress a protest, and by extension how the imposed cost of protest changes the cost-benefit calculus of regimes and its supporters. The argument is that increased protest size increases costs of continued mobilization to a level which regimes are unable to withstand due to crumbling support, and forces the government to make concessions to end those costs.[14] Large protests can have an immediate economic impact through shutting down economic activity which can harm the incumbent directly or cause third-parties to withdraw support.[15] Moreover, while certain regimes would prefer to repress protesters to avoid yielding costly concessions, a large number of people can be costly to repress,[16] and any repression will be very visible and potentially lead to backfire effect.[17] Hence, as protests increase in size they both become more costly for the regime due to lowered economic activity, and they also become more costly to deal with in terms of repression. Following the literature on protest costs and protest outcomes, we would assume that protest success is simply a function of the amount of costs a movement can generate to force concessions, and that size is a proxy for costs. However, a study on protest size and state concessions in Muslim-majority countries found that the increase in protest size that could be instrumented by Fridays, as Muslims would participate in collective action after mass, had a negative impact on the likelihood of concessions.[18] Moreover, high levels of disruption can sometimes make decision-makers less responsive

plosone/article?id=10.1371/journal.pone.0269976 (visited on 07/28/2022); Chenoweth and Stephan, see n. 4; DeNardo, see n. 5; Bahar Leventoğlu and Nils W. Metternich. "Born Weak, Growing Strong: Anti-Government Protests as a Signal of Rebel Strength in the Context of Civil Wars". en. In: *American Journal of Political Science* 62.3 (2018). _eprint: https://onlinelibrary.wiley.com/doi/pdf/10.1111/ajps.12356, pp. 581–596. ISSN: 1540-5907. DOI: 10.1111/ajps.12356. URL: https://onlinelibrary.wiley.com/doi/abs/10.1111/ajps.12356 (visited on 06/08/2022); Lichbach, see n. 5.

[14]Graig R. Klein and Patrick M. Regan. "Dynamics of Political Protests". en. In: *International Organization* 72.2 (2018). Publisher: Cambridge University Press, pp. 485–521. ISSN: 0020-8183, 1531-5088. DOI: 10.1017/S0020818318000061. URL: https://www.cambridge.org/core/journals/international-organization/article/abs/dynamics-of-political-protests/FF34963F17453C36ACC88B5C880E156D (visited on 06/18/2022).

[15]Kurt Schock. "The practice and study of civil resistance:" en. In: *Journal of Peace Research* (May 2013). Publisher: SAGE PublicationsSage UK: London, England. DOI: 10.1177/0022343313476530. URL: https://journals.sagepub.com/doi/10.1177/0022343313476530 (visited on 03/05/2020).

[16]Chenoweth and Stephan, see n. 4.

[17]Gene Sharp. *The politics of nonviolent action*. eng. Extending horizons books. Pages: 902. Boston: Porter Sargent Publisher, 1973. ISBN: 978-0-87558-068-5.

[18]Butcher and Pinckney, see n. 11.

to protests[19] and the support of movements may dwindle if costs are perceived as illegitimate.[20] This suggests that the size-concessions link is not entirely explained by the relationship between protest size and protest costs without further assumptions about how these costs are perceived.

The second type of mechanism that can explain why large movements are more successful than small movements in achieving state concessions is signalling mechanisms.[21] Signalling models of political action formalize how the information revealed by protest changes the decision calculus for protesters and regimes.[22] Actualized protest reveals information on the relative balance between the regime and civil society which prior to mobilization could only be estimated by other informational parameters.[23] The regime and its supporters learn about the opposition and potential for future dissent by observing the size of the protest. The protests cause the regime to form a new opinion about the size and strength of the opposition,[24] and by extension the relative balance between the regime and the opposition.[25] Prior to protest, all individuals know their own personal opinion about the regime, but during dissent the private information of all movement participants is summarized into one statistic that the political leader can observe; the size of the movement.[26] As regimes have updated information about the relative balance between them and the opposition, they can become more likely to yield concessions in exchange for de-escalation of dissent.

[19]Fabio Rojas. "Social Movement Tactics, Organizational Change and the Spread of African-American Studies". In: *Social Forces* 84.4 (2006). Publisher: Oxford University Press, pp. 2147–2166. ISSN: 0037-7732. URL: https://www.jstor.org/stable/3844493 (visited on 08/18/2022).

[20]Matthew Feinberg, Robb Willer, and Chloe Kovacheff. "The activist's dilemma: Extreme protest actions reduce popular support for social movements." en. In: *Journal of Personality and Social Psychology* 119.5 (Nov. 2020), pp. 1086–1111. ISSN: 1939-1315, 0022-3514. DOI: 10.1037/pspi0000230. URL: http://doi.apa.org/getdoi.cfm?doi=10.1037/pspi0000230 (visited on 02/06/2023).

[21]Butcher and Pinckney, see n. 11.

[22]Timur Kuran. "Sparks and Prairie Fires: A Theory of Unanticipated Political Revolution". In: *Public Choice* 61.1 (1989). Publisher: Springer, pp. 41–74. ISSN: 0048-5829. URL: https://www.jstor.org/stable/30025019 (visited on 05/23/2022); Timur Kuran. "Now Out of Never: The Element of Surprise in the East European Revolution of 1989". In: *World Politics* 44.1 (1991). Publisher: Cambridge University Press, pp. 7–48. ISSN: 0043-8871. DOI: 10.2307/2010422. URL: https://www.jstor.org/stable/2010422 (visited on 06/24/2022); Lohmann, "A Signaling Model of Informative and Manipulative Political Action", see n. 7; Susanne Lohmann. "The Dynamics of Informational Cascades: The Monday Demonstrations in Leipzig, East Germany, 1989-91". In: *World Politics* 47.1 (1994). Publisher: Cambridge University Press, pp. 42–101. ISSN: 0043-8871. DOI: 10.2307/2950679. URL: https://www.jstor.org/stable/2950679 (visited on 05/24/2022).

[23]Stephan Haggard and Robert F. Kaufman. *Dictators and Democrats*. en. Sept. 2016. ISBN: 978-0-691-17214-9. URL: https://press.princeton.edu/books/hardcover/9780691172149/dictators-and-democrats (visited on 03/23/2020).

[24]Kuran, "Now Out of Never", see n. 22; Lohmann, "A Signaling Model of Informative and Manipulative Political Action", see n. 7.

[25]Haggard and Kaufman, see n. 23.

[26]Lohmann, "A Signaling Model of Informative and Manipulative Political Action", see n. 7, p. 322.

In line with previous research, I expect all autocratic regimes to become more conducive to protester demands when a movement increases in size. An underlying assumption of the size-movement success link argument is that regimes have an expectation of the size on the opposition. All else equal, if size is a proxy for the revelation of rebel strength, and it is the size of the revelation of strength that explains protest success, institutions that shape the *informational environment* in such a way that it provides government with information on potential opposition should moderate the effect of protest size. In the next section, I build out this logic to explain how democratic institutions can make autocratic regimes better equipped at withstanding dissent.

3 Theory

3.1 Protests as threats to authoritarian rule

I follow the definition provided by Alvarez et al.[27] to define autocracies as a regime that fails to meet one or more of the following criteria: "i) the outcome of elections are uncertain, ii) once an election is won, the winner is allowed to assume office, and iii) the process of elections shall be repeated".[28] In this paper, I refer to two different sets of actors; the protesters and the autocratic regime. I assume that regime members have a strong preference to hold office, and that they seek to behave in a way that maximizes their probability of remaining in power.[29] Classical literature on autocratic rule identifies two sets of threats to autocratic incumbents: threats from within and threats from below. Svolik[30] call these threats the two fundamental problems of authoritarian rule: the problem of authoritarian power-sharing and the problem of authoritarian control.[31] The problem of authoritarian power-sharing is the problem that occurs when incumbents are forced to share power with other elites to gain access to power, but cannot credibly commit to power-sharing

[27]Mike Alvarez et al. "Classifying political regimes". en. In: *Studies In Comparative International Development* 31.2 (June 1996), pp. 3–36. ISSN: 1936-6167. DOI: 10.1007/BF02719326. URL: https://doi.org/10.1007/BF02719326 (visited on 09/04/2023).

[28]Ibid., p. 6.

[29]Bruce Bueno de Mesquita. *The Logic of Political Survival.* eng. The MIT Press Ser. Pages: xiii, 536. Cambridge: MIT Press, 2003. ISBN: 978-0-262-26952-0.

[30]Milan W. Svolik. *The politics of authoritarian rule.* eng. Cambridge studies in comparative politics. Cambridge: University Press, 2012. ISBN: 978-1-316-08996-5.

[31]Ibid.

when they gain access to power.[32]

Mass protests are usually considered a problem of authoritarian control. Threats from below in the form of mass protests can directly depose the leadership by taking control of government offices and installing a new leadership. Mass protests may also increase prospects of regime change simply by shifting the power-balance between autocratic elites. Faced with mass uprisings, supporters of the regime and members of the security apparatus may defect from the political leadership,[33] which leads to regime breakdown.

Because I assume autocratic regimes want to remain in office, I also assume that autocratic regimes seek to avoid large protests as they can potentially threaten the autocrat's hold on executive power for reasons discussed above. When protesters take to the street and put forward a demand, autocratic regimes can either try to repress the protesters, seek to trade concessions for tranquility, or simply ignore protesters should they feel confident that they can maintain a hold on power. In this paper, I consider protesters successful if the regime concedes to the protesters. In the next section, I zoom in on the mechanisms that explain why autocracies with more democratic institutions are more capable of dealing with larger threats.

3.2 (Un)surprising protest and state concessions

To explain the role of movement size in predicting when autocratic regimes yield concessions to protesters, I follow lohmann$_s ignaling_1 993 and arguethat" the success of a protest movement in bringing about poli$t

$$\text{Protest success} = \frac{\text{Observed protest size}}{\text{Expected protest size}}$$

Lohmann[35]'s argument builds on the assumption that office-motivated leaders want to choose the course of action that the majority of voters agree with in order to stay in power,[36] and as protests grow in size it gives leaders more information about the true preferences of the majority of the population. My argument builds on a similar assumption where I extend the logic to all

[32]Svolik, see n. 30.
[33]Chenoweth and Stephan, see n. 4.
[34]Lohmann, "A Signaling Model of Informative and Manipulative Political Action", see n. 7, p. 321.
[35]Ibid.
[36]Ibid., p. 320.

autocracies. I assume that all autocratic leaders fear rebellion from below.[37] From this it follows that autocratic leaders seek to avoid dissent because of a fear of being deposed. When dissent happens, leaders seek to respond to the course of action that maximizes their odds of staying in office.

Two implications follow from this logic. Firstly, because costs of being the first-mover is high[38] dissent in autocracies always reveal some information about who are willing to bear the cost of dissent in order to oppose the regime. Secondly, if a protest increases in size in the same country, the elites observe the protest and chooses to concede to the protesters or not depending on how conceding to protesters affect their odds of staying in office.

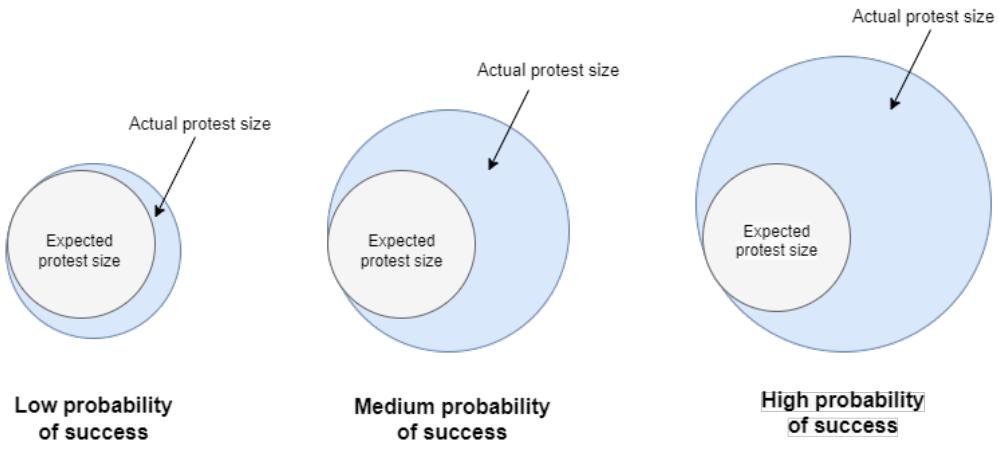


Figure 1: Protest size and probability of success

Figure 1 visualizes this relationship. The blue circle represents the size of protest movement, and the white circle represents the regime's estimate of the size of dissent. If regime's miscalculate and assume dissent will be of a small magnitude, protests should be more likely to succeed in gaining concessions and overthrow the regime as they increase in size. From this I formalize the first hypothesis which is line with previous research on protest size and protest success:

H_1: There is a positive relationship between protest size and state concessions

Another implication of Lohmann[39]'s is that when regimes observe the size of the protest, they

[37]Svolik, see n. 30.
[38]Kuran, "Now Out of Never", see n. 22; Lohmann, "The Dynamics of Informational Cascades", see n. 22.
[39]Lohmann, "A Signaling Model of Informative and Manipulative Political Action", see n. 7.

are less likely to attempt to change the political status quo if the ratio between the observed protest size and the expected protest size is small. This is because when protests reveal little new information about opposition, regimes can either ignore protester demands with a higher degree of certainty or they already have better knowledge on how to deal with high levels of dissent, for instance by co-opting key opposition actors or by using targeted repression, rather than conceding to the movement. Now, consider that the expected protest size is an ex ante estimate the government makes based on the available information about potential opposition in society. We can think of regime's expected protest size as the sum of information provided by different sources of information that is readily available to them.

$$\text{Protest success} = \frac{\text{Observed protest size}}{(\text{Expected protest size} = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \ldots + \epsilon)} \tag{1}$$

Figure 2 visualizes this relationship. The blue circle represents the size of protest movement, and the white circle represents the regime's estimate of the size of dissent. If regimes have a better estimate of the potential of large-scale dissent, even large protests should be less likely to succeed in gaining concessions and overthrow the regime even if they reach high levels of participation.

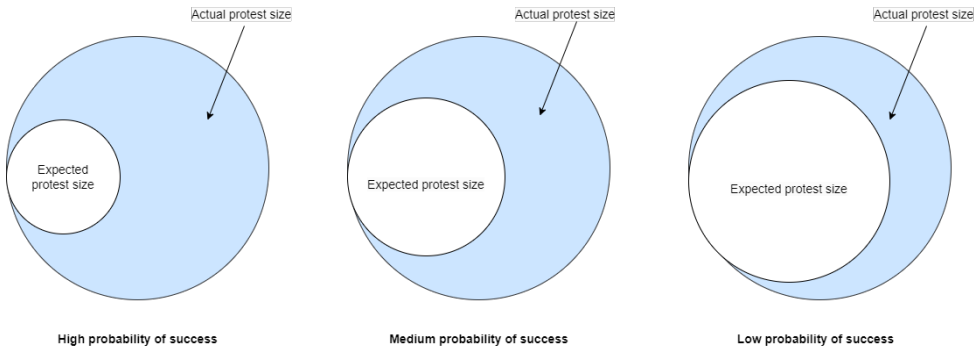


Figure 2: Protest size estimate and probability of success

I build on Lohmann[40]'s work by adding democratic institutions that provide regimes with better information about the opposition as parameters that conditions the relationship between protest size and protest success. Autocracies are often defined as a very homogeneous category, simply by being those regimes that do not qualify as democracies. However, in reality autocracies

[40]Lohmann, "A Signaling Model of Informative and Manipulative Political Action", see n. 7.

are a very heterogeneous set of regimes that vary in their institutional arrangements.[41] Some autocracies adopt seemingly democratic institutions to coopt the population and avoid the threat of rebellion.[42] Kuran[43] argues that individuals in autocracies that risk repression by voicing their opposition tend to engage in a phenomenon called "preference falsification" in which individuals hold negative private preferences against the political status quo, but express a different preference in public.[44] This dispersed nature of information about potential opposition in autocracies make large-scale mobilization difficult to predict.[45] The regime cannot observe anti-regime attitudes, and thus must make assumptions about potential regime opposition based on expressed public preferences and knowledge on other parameters that could induce anti-regime attitudes.

If we think of two stylized types of ideal autocracies, a closed autocracy and an electoral autocracy, they can both use information on experiences from previous dissent, how the economy is performing, international factors etc., to form an estimate about potential dissent. The main difference is that the electoral autocracy can add an additional parameter to the equation; institutions that provide regimes with information about the opposition and potential dissent.

$$\text{Closed autocracy:} \quad \frac{\text{Observed protest size}}{(\text{Expected protest size} = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \ldots + \epsilon)} \tag{2}$$

$$\text{Electoral autocracy:} \quad \frac{\text{Observed protest size}}{(\text{Expected protest size} = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_{\text{Democratic institution}} x_3 + \ldots + \epsilon)} \tag{3}$$

Democratic institutions give the regime aggregated information on the private preferences of

[41] Laure Bokobza and Jacob Nyrup. "Authoritarian multiparty governments". In: *Democratization* (2024). Publisher: Routledge, pp. 1–26. ISSN: 1351-0347. DOI: 10.1080/13510347.2024.2338858. URL: https://www.tandfonline.com/doi/full/10.1080/13510347.2024.2338858 (visited on 04/24/2024).

[42] Wonik Kim and Jennifer Gandhi. "Coopting Workers under Dictatorship". In: *The Journal of Politics* 72.3 (July 2010). Publisher: The University of Chicago Press, pp. 646–658. ISSN: 0022-3816. DOI: 10.1017/S0022381610000071. URL: https://www.journals.uchicago.edu/doi/full/10.1017/S0022381610000071 (visited on 08/23/2021).

[43] Kuran, "Now Out of Never", see n. 22.

[44] Ibid., p. 17.

[45] Lohmann, "The Dynamics of Informational Cascades", see n. 22.

the population, and by extension an estimate of the size of potential opposition movements. I argue that this allows them to form an ex ante estimate about the size of political opposition that is more accurate compared to political elites in less democratic autocracies where citizens engage in preference falsification. This has two important implications for protest movements. Firstly, autocracies with democratic institutions that provide updated information about the magnitude of regime opposition have better information about which protests are dangerous to them, and can therefore allow some protests to happen and reach high numbers because they are confident that they can withstand dissent. In more closed autocracies, the extent of preference falsification is higher and therefore these regimes seek to avoid all protests to remain in power. When protests happen and cascade into high participation numbers in close autocracies, it is likely due to a severe underestimation bu the regime of potential dissent, and concessions may be the only strategy left to diffuse tension.

Secondly, when protests grow and become difficult to manage due to the costliness of repressing large protests, autocratic regimes with democratic institutions still have better information about the opposition compared to closed autocracies, which allows them to either effectively target key opposition actors through co-optation or repression, or simply ignore protests should they still feel confident that they can withstand the maximum number they believe dissenters can mobilize. In sum, democratic institutions should moderate the relationship between protest size and the likelihood of state concessions because of the information they provide about the power balance between the regime and the opposition. Democratic institutions conditions how much new information protest can reveal, which makes the added value of increased protest participation lower than in for instance in more closed autocracies. Put differently, big protests always reveal new information in closed autocracies, whereas the probability that larger protest reveals new information in more democratic autocracies is lower. This can be formalized into the following hypothesis:

H_2: Higher protest participation increase the probability of state concessions, but this effect is smaller in more democratic autocracies

Consequently, if protest success is a function of the ratio between the realized protest size relative to its ex ante expected size,[46] democratic institutions condition the protest size estimate

[46]Lohmann, "A Signaling Model of Informative and Manipulative Political Action", see n. 7.

made by the regime. While increased participation in protest still brings every protest closer to protest success, this effect is smaller in autocracies with democratic institutions. However, while some institutions provide autocracies with information they can use to solve the problem of authoritarian control, other institutions provide citizens with real power to constrain the regime.

3.3 Alternative mechanisms

There are two alternative mechanisms that would lead to similar empirical implications as the presented argument on the relationship between democratic institutions, protest size, and state concessions. Firstly, autocratic regimes with democratic institutions might not need to concede to protesters as protests grow in size because they can allow the opposition to put forward their demands through institutionalized channels. If this was the case, democratic institutions do not moderate the relationship between protest size and state because they reduce the amount of new information revealed through protest, but because these institutions provide regimes with other tools to deal with high levels of dissent. Secondly, it could be that protests in more democratic autocracies may concern inherently different issues than protests in more closed autocracies. If protests in more closed autocracies are always concerned with maximalist issues, concessions may be the only strategy left for an autocratic regime. However, more democratic autocracies might see a large variety of protests where not conceding does not necessarily trigger a risk of regime breakdown.

In the robustness check-section, I probe the mechanisms by conducting a placebo test where I show that it is unlikely that any of these alternative mechanisms are driving the main results. The role democratic institutions play in autocracies is likely different from the role they play in democracies. Some autocracies adopt nominally democratic institutions[47] to deal with various threat to their rule. Over time, this has lead to a large number of autocracies adopting institutional

[47]Bokobza and Nyrup, see n. 41; Jennifer Gandhi and Adam Przeworski. "Cooperation, Cooptation, and Rebellion Under Dictatorships". en. In: *Economics & Politics* 18.1 (2006). _eprint: https://onlinelibrary.wiley.com/doi/pdf/10.1111/j.1468-0343.2006.00160.x, pp. 1–26. ISSN: 1468-0343. DOI: 10.1111/j.1468-0343.2006.00160.x. URL: https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1468-0343.2006.00160.x (visited on 09/27/2021); Jennifer Gandhi and Adam Przeworski. "Authoritarian Institutions and the Survival of Autocrats". en. In: *Comparative Political Studies* 40.11 (Nov. 2007). Publisher: SAGE Publications Inc, pp. 1279–1301. ISSN: 0010-4140. DOI: 10.1177/0010414007305817. URL: https://doi.org/10.1177/0010414007305817 (visited on 12/12/2022); Kim and Gandhi, see n. 42.

frameworks such as multiparty governments.[48] I advance on this literature by suggesting that certain seemingly democratic institutions will provide autocratic regimes with information about the opposition (and I expect my argument to run through these channels), while other institutions provide real constrains on executive power without providing the regime with information outside of elections. Building on the work of Teorell et al.[49] which condenses the work on democratic institutional guarantees presented in Dahl[50] into five subdimensions of democracy[51] that constitute the poyarchy score, I argue that democratic guarantees can be placed along two dimensions in autocracies: constraints on executive power, and information about the power balance between the regime and the opposition. We can leverage the different functions these institutions play to make two additional sets of predictions that allow us to test these alternative mechanisms more directly in a placebo test.

Information-providing democratic institutions are likely to be institutions that continuously update the regime on potential regime dissent such as associational freedom and freedom of expression. On the other had, certain democratic institutions constrain autocratic governments without providing them with continuous information about the opposition. Institutions that allow citizens to contest power without providing continuous information about potential dissent should make governments more conducive to protester demands as protests increase in size because larger protests sends a stronger signal about the relative power between the regime and the masses and there is a real chance that this balance affects the probability of the regime staying in office in the next election. From this, I make two additional predictions:

H_3: Higher protest participation increase the probability of protest success, but this effect is smaller in autocracies with higher freedom of expression

H_4: Higher protest participation increase the probability of protest success, and this effect is larger in autocracies where executives are elected

[48] Bokobza and Nyrup, see n. 41.

[49] Jan Teorell et al. "Measuring Polyarchy Across the Globe, 1900–2017". en. In: *Studies in Comparative International Development* 54.1 (Mar. 2019), pp. 71–95. ISSN: 1936-6167. DOI: 10.1007/s12116-018-9268-z. URL: https://doi.org/10.1007/s12116-018-9268-z (visited on 05/03/2024).

[50] Robert A. Dahl. *Polyarchy; participation and opposition.* eng. New Haven: Yale University Press, 1971. ISBN: 978-0-585-38576-1.

[51] "Elected officials, Free and Fair Elections, Associational Autonomy, Freedom of Expression and Alternative Sources of Information, and Inclusive Citizenship" (Teorell et al., see n. 49)

4 Data

To test the hypotheses, I source data on protest participation from MMAD,[52] state concessions data from ICEWS,[53] and data on electoral democracy and subindicators from V-Dem[54] to construct an unbalanced paneldata on country-months from 2003-2019[55]. Below is a discussion of the different variables, before I move on to describe the model specification and present the results from the regression analyses.

4.1 Main independent variable

To measure protest participation in autocracies, I source event data on anti-regime protest participation from the Mass Mobilization in Autocracies database.[56] I first subset the data to only those protests that are coded as anti-government.[57] I aggregate the sum of mean participation for each anti-government event to the month-level, and logtransform it. Usually, data on protest participation suffers from selection bias in terms of what kind of events are reported on. I assume that any findings in this paper is limited to protests that have reached a certain level of visibility and address more salient issues, as well as being biased towards an urban setting, and having survived any initial attempts to suppress dissent.

To account for how democratic institutions moderate the effect of increased protest participation on state concessions, I source year-level data on the polyarchy score of each country[58] which I lag by one year and paste last year's value for each month in a country-year.

To test if the effect of higher participation on the probability of state concessions is moderated by the institutional environment, I interact the log-transformed participation variable with the polyarchy score lagged by one year. I use the year-lagged score to capture the informational

[52] Weidmann and Rød, see n. 8, chapter 4.

[53] Boschee et al., see n. 10.

[54] Michael Coppedge et al. *V-Dem Dataset*. 2023. DOI: https://doi.org/10.23696/vdemds23.

[55] The data is unbalanced because MMAD only collects data for countries that are coded as autocracies by Lührmann, Tannenberg and Lindberg (2018) and the following three years after they cease to be autocracies, which means that countries can both enter and exit the period of observation between 2003-2019.

[56] Weidmann and Rød, see n. 8, chapter 4.

[57] Rebecca Strauch, Eda Keremoğlu, and Nils B. Weidman. *Coding Instructions for the Mass Mobilization in Autocracies Database, version 4.0*. 2022, p. 6.

[58] Teorell et al., see n. 9.

environment of the previous year.

4.2 Dependent variable

Defining protest success is inherently difficult as protests tend to have a number of goals, and in addition protest in authoritarian contexts can result in a number of unintended consequences.[59] In this paper, I focus on state concessions. I measure concessions by constructing a measure for state concessions using data from the Integrated Crisis Early Warnings System (ICEWS) dataset.[60] To identify concessions made by the regime, I detect events where I use information on sources of action that identifies potential state actors[61], and information on the target of action[62] and verbs that identify actions related to concessions[63]. This gives me event-day level data on number of concessions in each country. Because I am not interested in how institutions moderate how many concessions states give protesters as protests increase in size, but the change in probability of any concessions being given, I convert the count variable to a binary variable (0,1) which takes the value one if at least one concession was made on the day. I then aggregate the variable to take the value 1 if any state concessions were made in a month, and lead it by one month to avoid simultaneity bias.

4.3 Control variables

I include a set of controls that can explain differences in both protest participation, democratic institutions, and probability of concessions. All controls are lagged by one year. To account for the time-specific nature of concessions and protest participation, where concessions might spur future protests,[64] I construct a variable that counts the time (months) since the last concession, and that

[59] Kimberly Turner. "A win or a flop? Measuring mass protest successfulness in authoritarian settings". en. In: *Journal of Peace Research* 60.1 (Jan. 2023). Publisher: SAGE Publications Ltd, pp. 107–123. ISSN: 0022-3433. DOI: 10.1177/00223433221140434. URL: https://doi.org/10.1177/00223433221140434 (visited on 06/20/2023).

[60] Boschee et al., see n. 10.

[61] "Government","Executive","Cabinet","Parliamentary","Military","Police","Judicial"

[62] "Opposition","Dissidents","Protestors","Activists","NGO"

[63] Yield, Express Intent to Cooperate, Engage in Diplomatic Cooperation

[64] Elena Leuschner and Sebastian Hellmeier. "State Concessions and Protest Mobilization in Authoritarian Regimes". en. In: *Comparative Political Studies* (May 2023). Publisher: SAGE Publications Inc, p. 00104140231169022. ISSN: 0010-4140. DOI: 10.1177/00104140231169022. URL: https://doi.org/10.1177/00104140231169022 (visited on 05/31/2023).

variable cubed and squared.[65] This does not fully solve the issue of within-month variation where concessions made in a month might sometimes spur protest in the same month, but in the cases where this might be true, I do not expect this to vary systematically across democratic institutions.

To control for whether economic conditions, which may both facilitate and trigger protest,[66] explain variation in levels of democracy,[67] and change the probability of state concessions, I apply the log of GDP pc. I also control for urbanization, as cities both facilitate organization of protest and make the potential payoff higher by increasing costs.[68] In a robustness check, I exchange the GDP pc measure for GDP growth measure to account for sudden how economic downturns may affect the results.

4.4 Descriptive statistics

Table 1 shows an overview of the main variables applied in the models. Almost all countries give some concessions during the period of observation (2003-2019). In the appendix I also list an overview over all included countries, as well as the time until the first concession. There are 3760 months where at least the size of one protest was observed.

[65] David B. Carter and Curtis S. Signorino. "Back to the Future: Modeling Time Dependence in Binary Data". en. In: *Political Analysis* 18.3 (July 2010), pp. 271–292. ISSN: 1047-1987, 1476-4989. DOI: 10.1093/pan/mpq013. URL: https://www.cambridge.org/core/journals/political-analysis/article/back-to-the-future-modeling-time-dependence-in-binary-data/9E4BCC2A63726C4ECD63F236C49AF9FA (visited on 05/24/2024).

[66] Dawn Brancati. "Pocketbook Protests: Explaining the Emergence of Pro-Democracy Protests Worldwide". en. In: *Comparative Political Studies* 47.11 (Sept. 2014). Publisher: SAGE Publications Inc, pp. 1503–1530. ISSN: 0010-4140. DOI: 10.1177/0010414013512603. URL: https://doi.org/10.1177/0010414013512603 (visited on 08/22/2022).

[67] José Alemán and David D. Yang. "A Duration Analysis of Democratic Transitions and Authoritarian Backslides". In: *Comparative Political Studies* 44.9 (Sept. 2011). Publisher: SAGE Publications Inc, pp. 1123–1151. ISSN: 0010-4140. DOI: 10.1177/0010414011405460. URL: https://doi.org/10.1177/0010414011405460 (visited on 08/18/2021); Daniel Treisman. "Economic Development and Democracy: Predispositions and Triggers". en. In: *Annual Review of Political Science* 23.1 (May 2020), pp. 241–257. ISSN: 1094-2939, 1545-1577. DOI: 10.1146/annurev-polisci-050718-043546. URL: https://www.annualreviews.org/doi/10.1146/annurev-polisci-050718-043546 (visited on 02/07/2022).

[68] Henry Thomson et al. "Urban Social Disorder 3.0: A global, city-level event dataset of political mobilization and disorder". en. In: *Journal of Peace Research* (Aug. 2022). Publisher: SAGE Publications Ltd, p. 00223433221082991. ISSN: 0022-3433. DOI: 10.1177/00223433221082991. URL: https://doi.org/10.1177/00223433221082991 (visited on 11/01/2022).

Table 1: Summary Statistics

Variable	N	Mean	Std. Dev.	Min	Pctl. 25	Pctl. 75	Max
Month mean part	3760	21049	132813	2	200	5428	3643858
Concession (1,0) (t+1)	12833	0.18	0.39	0	0	0	1
Polyarchy	12834	0.3	0.13	0.016	0.21	0.41	0.77
GDP pc	12456	4957	8737	255	782	4909	62140
Share of pop. urban	12786	50	22	11	33	67	100
Battle-deaths	3942	2062	7619	0	53	889	72003
Population	12786	50004185	168642197	748324	6097177	33767122	1402760000

5 Results

I run generalized linear models with logistic regression with country-fixed-effect by applying a least squares dummy variable approach to account for unobserved country-specific heterogeneity that pertains to levels of protest mobilization and propensity of state concessions.[69] The full model is specified as:

$$\log\left(\frac{P(Y=1)}{P(Y=0)}\right) = \beta_0 + \beta_1 \text{Size} + \beta_2 \text{Polyarchy} + \beta_3(\text{Size} \times \text{Polyarchy}) + ... + \sum_{k=1}^{n-1} \gamma_k \text{Country}_k \quad (4)$$

where $\log\left(\frac{P(Y=1)}{P(Y=0)}\right)$ is the log-odds of the binary dependent variable Y: State concession (t+1), β_0 is the intercept, β_1 is the log of the monthly aggregated protest size, β_2 is the polyarchy score lagged by one year, β_3 is the interaction of the protest size variable and the polyarchy score, the dots are the coefficients for the control variables, and γ_k are the coefficients for the country-fixed effects, Country_k is dummy variable set for the countries, with k countries running from 1 to $n-1$ (n is the total number of countries in the sample).

Table 2 shows the results of the fixed-effect models for testing hypothesis 1 and 2. As expected, the logged protest participation variable shows that the probability of the state giving a concession in the following month of a protest increases as protest size increases.

[69] Mehmet Mehmetoglu and Tor Georg Jakobsen. *Applied statistics using stata: a guide for the social sciences.* eng. Los Angeles, Calif: SAGE Publications, 2017. ISBN: 978-1-4739-1323-3; Oscar Torres-Reyna. "Getting Started in Fixed/Random Effects Models using R". en. In: (), p. 28.

Table 2: Regression Results

	Dependent variable:			
	Concession (0,1) t+1			
	(1)	(2)	(3)	(4)
Log participation	0.093***	0.146***	0.132***	0.132***
	(0.008)	(0.022)	(0.022)	(0.022)
Electoral democracy lag	−0.373	0.033	0.092	0.152
	(0.490)	(0.512)	(0.514)	(0.522)
t-Last concession			−0.142***	−0.140***
			(0.013)	(0.013)
(t-Last concession)^2			0.005***	0.005***
			(0.001)	(0.001)
(t-Last concession)^3			−0.00004***	−0.00004***
			(0.00001)	(0.00001)
Log Battle deaths lag				−0.038**
				(0.016)
Log GDP pc lag				−0.146
				(0.182)
Urban population lag				−0.023
				(0.015)
Log participation*Democracy		−0.180***	−0.181***	−0.177**
		(0.068)	(0.069)	(0.069)
Constant	−1.222***	−1.297***	−0.853***	2.152
	(0.196)	(0.199)	(0.203)	(1.325)
Country-fixed effects	*Yes*	*Yes*	*Yes*	*Yes*
BIC	9687	9690	9547	9563
Observations	11,140	11,140	11,140	11,140
Log Likelihood	-4,447.716	-4,444.219	-4,358.853	-4,352.962
Akaike Inf. Crit.	9,065.432	9,060.439	8,895.707	8,889.924

Note: *p<0.1; **p<0.05; ***p<0.01

Model 3 includes the interaction term between the protest size variable and the electoral autocracy variable to see if the effect of increased protest on the probability of receiving a concession in the following month is moderated by a country's level of democracy. Here we see that the estimate for interaction term is negative and statistically significant. This relationship holds when controlling for potential confounders in the full model (4).

Setting all other variables to the mean, we can visualize the relationship between electoral democracy and protest size. Here we see that electoral democracy moderates the predicted probability of the state giving a concession in the next month as protests increase in size.

Figure 3 visualizes how the effect of increased protest size on the probability of gaining at least one concession from the state changes in the following month. The red line visualizes the maximum polyarchy score observed in the data, and the black line visualizes the minimum polyarchy score. Interpreting these results together with the main results show that while an increase in protest size is associated with a higher probability of a state concession in the next month, this association is smaller in more democratic autocracies.

Figure 3: Predicted Probability of Concessions by Protest Size and Electoral Democracy

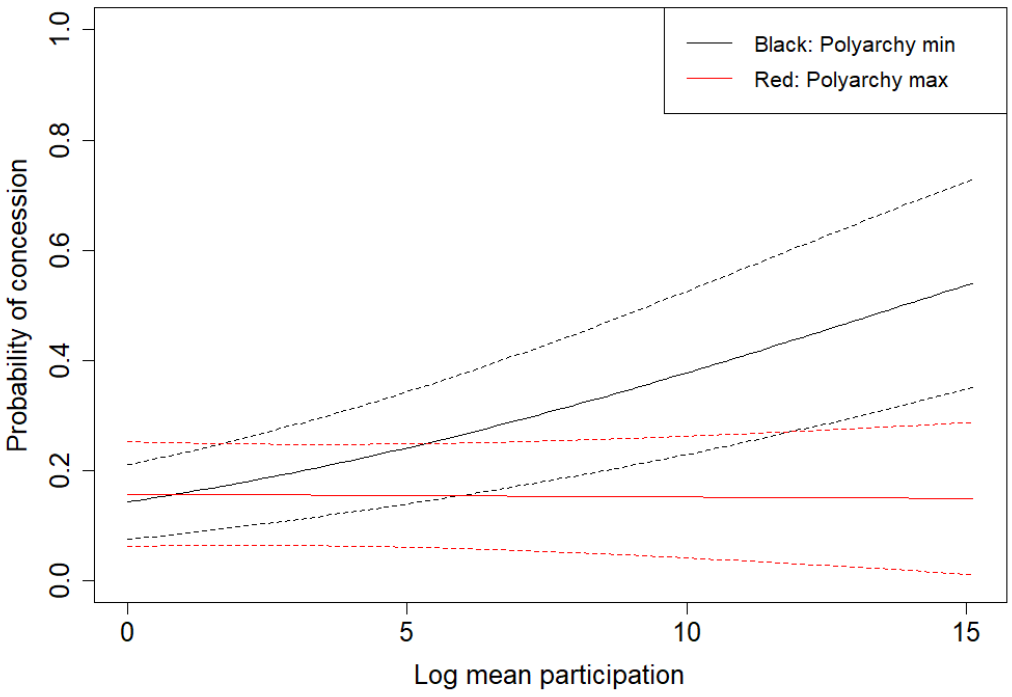
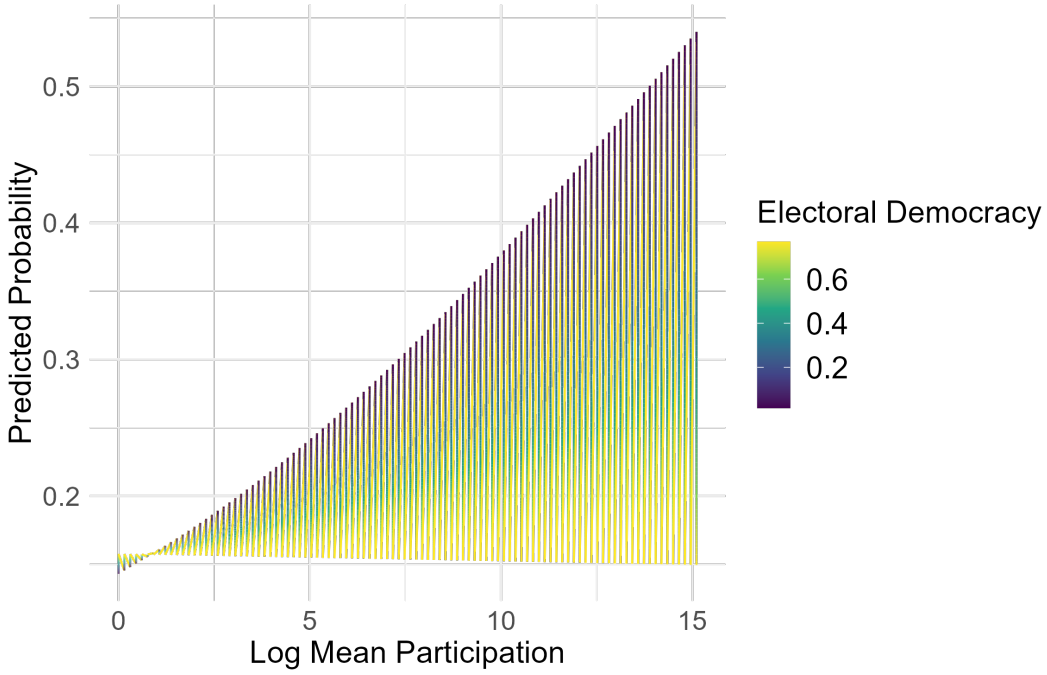


Figure 4 shows how the relationship between protest size and probability of state concessions changes across different levels of the polyarchy score observed in the data. Here we can see that the point estimates change across levels of polyarchy. Here we can clearly see that the association between protest size and concession seems to become smaller for each unit increase on the polyarchy score.

Figure 4: Predicted Probability of Concessions by Protest Size and Electoral Democracy



5.1 Robustness checks

I run a series of robustness checks to test if the results are robust to different model specifications, and how sensitive the findings are to potential omitted-variables and missing data.

5.1.1 Robustness check 1: Additional control variables

I re-run model 4 (the most extensive model) from table 2 with additional model specifications to test if the results still hold. In model 1 in table 4 I exchange GDP pc for GDP growth as a control to check if yearly fluctuations in the economy can both trigger protest and affect the probability of concessions. In model 2, I add the population number as more populous countries can both more

easily mobilize a higher number, and the autocratic regime may have to decide to concede or not more often due to a higher number of protests due to more activity. In both models, the main results still hold. The results are reported in the appendix.

5.1.2 Robustness check 2: Alternative model specifications

I also run different model specifications to check if the results are sensitive to different model choices. I first rerun the full model from table 2 with both year and country fixed-effects to account for time-specific trends that might both impact all countries in terms of protest size, polyarchy levels, and probability of concessions such as for instance the Arab spring. In addition to adding country-year fixed-effects, I add country-clustered standard errors to account for whether residuals are correlated across countries.[70] The interaction remains negative and statistically significant, and are also reported in the appendix. Finally, I run the model as a linear probability model instead of applying a logistic regression, and the results still hold.

5.1.3 Missing data analysis

Like all protest data, the MMAD data contains missing values for the protest size variable. In the sample for this paper, there are 1081 observations (country-months) where MMAD has recorded a protest, but not observed and logged a protest size estimate, which is a quite significant number and I therefore do further analysis to test how robust the main findings are to the missingness structure of the data.

My main concern is whether the missing values are systematically related to the other main variable of interest: the polyarchy score, as this would suggest that the missing values have a non-random relationship with polyarchy in a way that would severely bias any results. I therefore start by checking the mean polyarchy value of the full sample where the current data assumes 0 observed protesters for the rows where MMAD observed a protest but did not log any participants, and a more strict sample where I drop the 1081 observations. The mean polyarchy score of the full sample is 0.30395 and the restricted sample mean is 0.3041, which suggests there are no significant

[70] Jefrey M. Wooldridge. *Econometric Analysis of Cross Section and Panel Data*. The MIT Press, 2010. ISBN: 978-0-262-23258-6. URL: `https://www.jstor.org/stable/j.ctt5hhcfr` (visited on 05/05/2024).

differences between the samples.

I conduct two additional tests. First, I run model 4 from table 2 using the strict sample dropping the 1081 observations. The results are unchanged and reported in the appendix. Secondly, instead of dropping the 1081 variables I paste the log of 25 as MMAD coders only log a protest if they feel confident that at least 25 people participated in a protest.[71] I then run the model 4 from table 2 with the pasted values, and the results are unchanged and reported in the appendix.

An additional concern would be that the missingness structure of the data is related to the outcome of interest; state concessions. While I am able to explore which recorded protests in the MMAD data lacks participation data, I have no information about whether a concession was not recorded in ICEWS because it did not happen or because it was not picked up in the data. However, both the participation data and the concessions data is coded from newswires, and may therefore suffer from similar reporting-bias both across the sample and on the country-level. As the missingness structure of the participation data does not seem to be systematically related the polyarchy score, I assume that systematic reporting-bias on the country-level is mitigated by the country-fixed effects in the main analysis and improved reporting-capabilities over time is mitigated by adding year-fixed effects as a robustness check.

5.2 Placebo test

Can we be certain that the relationship between protest size, an autocracy's polyarchy score, and state concessions is explained by the argument presented in this paper? I assumed that any negative moderation effect of polyarchy on the relationship between protest size and concessions runs through an informational channel where more democratic autocracies have better information about potential regime opposition and are therefore less surprised as protests grown in size and have better information on who to co-opt or repress to avoid having to give costly short-term concessions, compared to more closed autocracies. I further probe this mechanisms by conducting a placebo test. A placebo test "checks for an association that should be absent if the assumptions underlying the design hold but might be present if those assumptions are violated in some relevant

[71] Strauch, Keremoğlu, and Weidman, see n. 57.

way".[72]

In the theory section, I discussed two alternative mechanisms that would lead to similar empirical predictions: a) that more democratic autocracies can concede less often as protests grows because they can deal with opposition through elections, and b) that protest issues vary systematically across levels of democracy that lead to different propensities for the probability of concessions. To probe my mechanism, I conduct a placebo treatment test[73] to test if the moderation effect is absent when I replace the polyarchy measure with a measure that is related to the polyarchy score, but should not be associated with the theoretical argument in this paper. I run two additional models where I exchange the polyarchy measure in the full model 4 in 2 with subdimensions of democracy for which I made contrasting empirical predictions. For the placebo treatment, I select the "Elected Officials index" as a measure for a democratic institution that constrains the regime without providing them with continuous updated knowledge on regime opposition outside of elections. I select freedom of expression and access to alternative information as a more direct measure of an information-providing institution that provide regimes with updated knowledge on opposition actors and their opinions. Both variables are also sourced from the V-Dem project v14,[74] and are a part of the aggregation of the polyarchy score.

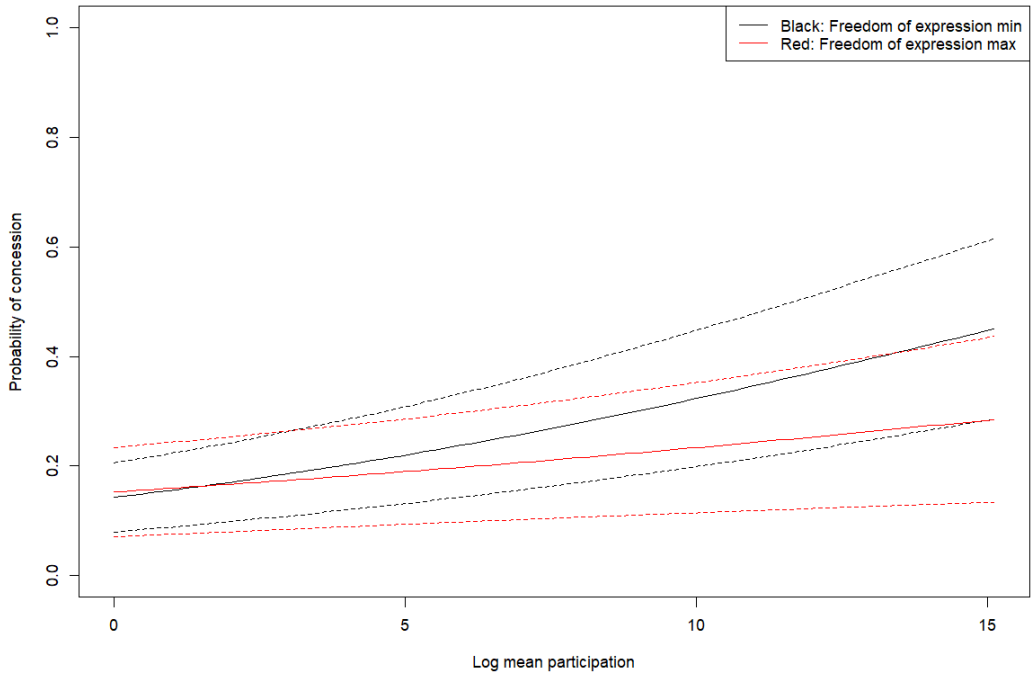
If the main results are driven by any of the alternative mechanisms, we would expect both the freedom of expression index and the elected officials index to negatively moderate the effect of size on the probability of concessions, similarly to the main results. Instead, the results in figure 5 show that this is not the case. While the freedom of expression index, which is a more direct test of the informational argument presented in this paper, negatively moderates the relationship between protest size and the probability of concessions in the following month, the moderation effect flips for the elected official index and fails to reach conventional levels of statistical significance. The findings support the main hypothesis of this paper, and weakens alternative hypotheses.

[72] Andrew C. Eggers, Guadalupe Tuñón, and Allan Dafoe. "Placebo Tests for Causal Inference". en. In: *American Journal of Political Science* n/a.n/a (). _eprint: https://onlinelibrary.wiley.com/doi/pdf/10.1111/ajps.12818. ISSN: 1540-5907. DOI: 10.1111/ajps.12818. URL: https://onlinelibrary.wiley.com/doi/abs/10.1111/ajps.12818 (visited on 05/21/2024), p. 1.

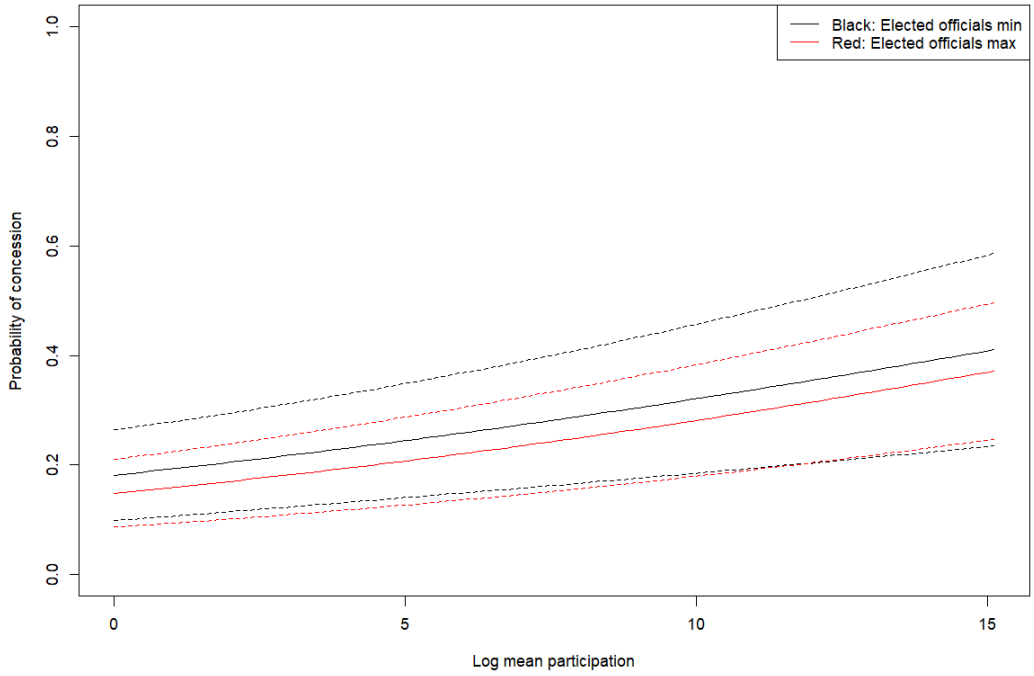
[73] Ibid.

[74] Michael Coppedge et al. *V-Dem [Country-Year/Country-Date] Dataset v14*. Varieties of Democracy (V-Dem) Project. 2024. DOI: https://www.v-dem.net/data/dataset-archive/. (Visited on 04/22/2024).

Figure 5



(a) Predicted Probability of Concessions by Protest Size and Freedom of Expression



(b) Predicted Probability of Concessions by Protest Size and Elected Officials index

6 Discussion and conclusion

In this study, I ask if the institutional environment of a country moderates the relationship between protest size and state concessions, focusing on the role of size in predicting movement success. According to the presented theory, larger protests increase the prospects of success for anti-state protests because they signal new information about the preferences, strength and size of the opposition to the political elites. Following Lohmann, I argue protest success is a function of realized protest size relative to the expected protest size.[75] Across all models, my findings largely reconfirms this relationship. As protests increase in size, the probability of state concessions in the next month increases. This finding echoes findings from previous studies.[76]

Expanding on previous explanations of protest success, I add democratic institutions that institutionalize the flow of information between political regime and the opposition as a parameter that conditions the role of movement size. I argue that because regimes in autocracies with more democratic institutions have better knowledge about the average private preferences of the population, they can make more reliable estimates of a protest ex ante. Thus, the ratio between the expected protest size and the realized protest size is smaller in more democratic autocracies. This affects the revelation potential of protest. I postulated one new hypothesis from this argument. I expected that democratic institutions moderate the effectiveness of large protests. The findings from the regression analyses support the hypothesis, and the results are robust to additional model specifications and robustness checks.

I also conducted a placebo test to examine the explanatory power of competing alternative mechanisms. Building on the work of Teorell et al.[77] which identifies different subdimensions of electoral democracy as defined by Dahl,[78] I tested the proposed informational mechanism directly by swapping the polyarchy index for a freedom of expression and alternative information index, and conducted a placebo test by running an additional model where I instead of the polyarchy score used the elected officials index, which I argue does not provide regimes with continuous information on the opposition. Instead, I argued as protest grow, states in autocracies that elect their officials

[75] Lohmann, "A Signaling Model of Informative and Manipulative Political Action", see n. 7.
[76] Chenoweth, Hocking, and Marks, see n. 13; Chenoweth and Stephan, see n. 4; DeNardo, see n. 5.
[77] Teorell et al., see n. 49.
[78] Dahl, see n. 50.

and the population is largely emancipated should be more conducive to protesters' demands as the increase in protest size becomes a signal for their continued access to office. The placebo test does not reach conventional levels of statistical significance, whereas the findings from the more direct mechanism test using the freedom of expression and alternative information index echoes the main results. Overall, both robustness checks and the placebo test support the information-moderating argument presented in this paper.

There are several important scope conditions for the results of this paper. The first one is that protest can signal all kinds of information, and size is just one characteristic of protest that regimes can infer information from. Other common predictors of success could also in theory be conditional on the institutional context of the country, but they are beyond the scope of this paper. Moreover, this study studies how protest changes regime behaviour and argues that protest is effective when it signals new information to the regime, but protest can also signal information to other segments of society than the political regime. Further research on this topic could explore the effects larger protests has on the behaviour of civil society across different institutional contexts.

What can the results from this study yield to protest scholars and activists? The main takeaway is that protest is probably more likely to succeed in changing regime behaviour and force the state to concede to the movement when protest reveals new information about the power-balance between the opposition and the regime that is not revealed outside of protest. This insight is not trivial, and should encourage us to think critically about the function of protest as a tool for political change. If protests in the past have been successful because they revealed information about the power-balance in society, we need to think critically about how the informational environment of states have changed over the years. Contrary to what we would believe, the decline in civil resistance effectiveness could partially be explained by autocracies becoming less responsive to large movements as they adopted more democratic institutions.

Protests are happening in a large variety of institutional contexts, and we need to study movements in these contexts to assess protest success mechanisms. In particular, I argue that we need to examine conditions that can change empirical predictions from existing literature on the role of information provided by protest. In the current state of global democratic decline, anti-state

protests happen all over the world in response to autocratization. However, if the mechanisms that can increase prospects of movement success are different across institutional contexts, it is crucial to study under what conditions these movements can succeed. This paper calls for further exploration of the conditions that can improve prospects for movement success across different institutional contexts beyond mobilizing a large number people.

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7 Appendix

7.1 Descriptive statistics

Table 3: Months to First Concession by Country

cowcode	start_date	first_concession_date	months_to_first_concession
40	2005-02-01	2005-03-01	1
41	2003-01-01	2004-01-01	12
91	2016-03-01	2017-12-01	21
93	2013-06-01	2018-04-01	58
101	2006-01-01	2006-01-01	0
145	2019-02-01	2019-11-01	9
310	2019-01-01	2019-10-01	9
343	2013-01-01	2014-05-01	16
345	2016-01-01	2016-04-01	3
365	2003-01-01	2003-01-01	0
369	2012-03-01	2012-03-01	0
370	2003-01-01	2003-12-01	11
371	2003-02-01	2003-02-01	0
372	2003-03-01	2003-07-01	4
373	2003-01-01	2003-01-01	0
404	2003-02-01	2007-08-01	54
411	2013-05-01	NA	NA
420	2004-12-01	2006-02-01	14
432	2013-01-01	2013-10-01	9
434	2019-03-01	NA	NA
435	2003-05-01	2003-06-01	1
436	2009-07-01	2009-09-01	2
437	2003-01-01	2003-08-01	7
438	2003-01-01	2004-02-01	13

Table 3: Months to First Concession by Country *(continued)*

cowcode	start_date	first_concession_date	months_to_first_concession
439	2004-02-01	2006-12-01	34
450	2003-02-01	NA	NA
461	2003-06-01	2004-05-01	11
471	2003-07-01	2005-01-01	18
475	2019-02-01	2019-02-01	0
481	2005-05-01	2016-01-01	128
482	2003-01-01	2007-10-01	57
483	2005-08-01	2007-08-01	24
484	2004-07-01	2009-11-01	64
490	2003-03-01	2007-06-01	51
500	2003-03-01	2003-03-01	0
501	2003-01-01	2003-01-01	0
510	2003-01-01	2005-05-01	28
516	2013-08-01	2014-10-01	14
517	2003-08-01	2003-08-01	0
520	2012-12-01	2013-12-01	12
530	2004-01-01	2004-08-01	7
531	2013-01-01	NA	NA
540	2003-06-01	2005-08-01	26
541	2003-05-01	2005-04-01	23
551	2003-03-01	2003-07-01	4
552	2003-01-01	2003-01-01	0
553	2019-01-01	2019-06-01	5
565	2007-04-01	2008-04-01	12

Table 3: Months to First Concession by Country *(continued)*

cowcode	start_date	first_concession_date	months_to_first_concession
570	2017-02-01	NA	NA
571	2006-11-01	2009-12-01	37
572	2003-03-01	2006-09-01	42
580	2003-01-01	2004-05-01	16
600	2003-01-01	2004-08-01	19
615	2003-01-01	2003-05-01	4
616	2003-02-01	2004-04-01	14
620	2006-01-01	2006-03-01	2
625	2003-07-01	2003-07-01	0
626	2012-01-01	2013-12-01	23
630	2003-01-01	2003-01-01	0
640	2013-01-01	2013-06-01	5
645	2009-01-01	2009-04-01	3
651	2003-01-01	2004-03-01	14
652	2004-03-01	2004-05-01	2
660	2009-02-01	2009-06-01	4
663	2003-06-01	2003-11-01	5
670	2003-10-01	2003-10-01	0
679	2003-01-01	2003-04-01	3
690	2003-07-01	2004-03-01	8
692	2003-01-01	2004-05-01	16
696	2003-06-01	2004-06-01	12
698	2005-05-01	2012-06-01	85
700	2009-08-01	2010-02-01	6

Table 3: Months to First Concession by Country *(continued)*

cowcode	start_date	first_concession_date	months_to_first_concession
701	2008-02-01	2012-08-01	54
702	2003-01-01	2005-08-01	31
703	2003-01-01	2005-03-01	26
704	2003-03-01	2003-10-01	7
705	2004-02-01	2004-12-01	10
710	2003-01-01	2003-01-01	0
731	2006-11-01	2007-03-01	4
770	2003-01-01	2003-03-01	2
771	2007-01-01	2007-01-01	0
775	2003-01-01	2003-01-01	0
780	2013-01-01	2013-02-01	1
790	2003-01-01	2003-04-01	3
800	2006-09-01	2006-09-01	0
811	2003-05-01	2003-08-01	3
812	2009-11-01	NA	NA
816	2003-06-01	2004-06-01	12
820	2003-01-01	2003-01-01	0
830	2005-08-01	2006-09-01	13
840	2019-03-01	2019-04-01	1
910	2016-06-01	2016-07-01	1

7.2 Robustness checks

Replication of model 4 in table 2 with additional controls GDP growth and population size.

Table 4: Robustness check 1

	Dependent variable:	
	Concession (0,1) t+1	
	(1)	(2)
Log participation	0.131***	0.134***
	(0.022)	(0.022)
Polyarchy lag	0.093	0.054
	(0.515)	(0.517)
Months since concession	−0.140***	−0.139***
	(0.013)	(0.013)
Months since concessions^2	0.005***	0.005***
	(0.001)	(0.001)
Months since concessions^3	−0.00004***	−0.00004***
	(0.00001)	(0.00001)
Log battle deaths lag	−0.040**	−0.043**
	(0.017)	(0.017)
GDP growth	−0.005	−0.006
	(0.005)	(0.005)
Urban pop lag	−0.031**	−0.060***
	(0.012)	(0.017)
Population lag		0.000**
		(0.000)
Log participation*Polyarchy lag	−0.174**	−0.179***
	(0.069)	(0.069)
Constant	1.573	3.627***
	(0.961)	(1.262)
Country-fixed effects	*Yes*	*Yes*
Observations	11,140	11,140
Log Likelihood	-4,352.693	-4,349.506
Akaike Inf. Crit.	8,889.386	8,885.012
Note:		*p<0.1; **p<0.05; ***p<0.01

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Replication of model 4 in table 2 with country-year fixed-effects.

Table 5: Country-year fixed-effects

	Dependent variable:
	Concession (0,1) t+1
Log participationt	0.121***
	(0.022)
Electoral democracy lag	−0.130
	(0.532)
t-Last concession	−0.133***
	(0.013)
(t-Last concession)^2	0.004***
	(0.001)
(t-Last concession)^3	−0.00004***
	(0.00001)
Log Battle deaths lag	−0.021
	(0.018)
Log GDP pc lag	−0.110
	(0.206)
month_urban_perc_lag	−0.001
	(0.019)
Urban population lag	−0.155**
	(0.070)
Log participation*Democracy	−0.155**
	(0.070)
Constant	0.032
	(1.995)
Country-year fixed-effects	*Yes*
Observations	11,140
Log Likelihood	-4,332.000
Akaike Inf. Crit.	8,880.000
Note:	*p<0.1; **p<0.05; ***p<0.01

Replication of model 4 in table 2 with country-year fixed-effects and country-clustered

Dependent Variable:	Concession (0,1) t+1
Model:	(1)
Variables	
Log Participation	0.0234***
	(0.0044)
Electoral Democracy (lag)	0.0329
	(0.2062)
t-Last concession	-0.0085***
	(0.0016)
(t-Last concession)$\hat{2}$	0.0002***
	(4.26×10^{-5})
(t-Last concession)$\hat{3}$	-9.93×10^{-7}***
	(2.53×10^{-7})
Log Battle-deaths lag	-0.0037
	(0.0052)
Log GDP pc lag	-0.0240
	(0.0566)
Urban perc lag	-0.0003
	(0.0055)
Log Participation × Electoral Democracy (lag)	-0.0344***
	(0.0124)
Fixed-effects	
cowcode	Yes
year	Yes
Fit statistics	
Observations	11,140
R^2	0.20630
Within R^2	0.02278

standard errors.

Linear probability model with identical variable specification as model 4 in table 2 with country-year fixed-effects.

Table 6

	Dependent variable:
	conces_binary_lead
log_mean_part	0.023^{***}
	(0.003)
month_v2x_polyarchy_lag	0.033
	(0.068)
months_since_concession	-0.009^{***}
	(0.001)
months_since_concession_squared	0.0002^{***}
	(0.00002)
months_since_concession_cubed	-0.00000^{***}
	(0.00000)
log_battle_deaths_lag	-0.004
	(0.002)
log_gdp_pc_lag	-0.024
	(0.026)
month_urban_perc_lag	-0.0003
	(0.002)
log_mean_part:month_v2x_polyarchy_lag	-0.034^{***}
	(0.010)
Constant	0.465^{*}
	(0.279)
Observations	11,140
R^2	0.206
Adjusted R^2	0.199
Residual Std. Error	0.355 (df = 11032)
F Statistic	26.798^{***} (df = 107; 11032)
Note:	*p<0.1; **p<0.05; ***p<0.01

7.3 Missing data analysis

Replication of model 4 in table 2 where the observations where MMAD recorded a protest but not the estimate of the protest size are dropped from the sample

Table 7: Model 4 with with listwise deletion of NA values

	Dependent variable:
	conces_binary_lead
log_mean_part	0.139^{***}
	(0.023)
month_v2x_polyarchy_lag	0.503
	(0.545)
months_since_concession	-0.142^{***}
	(0.014)
months_since_concession_squared	0.005^{***}
	(0.001)
months_since_concession_cubed	-0.00004^{***}
	(0.00001)
log_battle_deaths_lag	-0.036^{**}
	(0.017)
log_gdp_pc_lag	−0.112
	(0.194)
month_urban_perc_lag	−0.024
	(0.016)
log_mean_part:month_v2x_polyarchy_lag	-0.201^{***}
	(0.072)
Constant	1.777
	(1.396)
Observations	10,211
Log Likelihood	−3,968.723
Akaike Inf. Crit.	8,121.446
Note:	*p<0.1; **p<0.05; ***p<0.01

Replication of model 4 in table 2 with pasted log(25) values for participation size for the observations where MMAD recorded a protest but not the estimate of the protest size.

Table 8: Model 4 with with NAs set to log(25)

	Dependent variable:
	conces_binary_lead
log_mean_part	0.139^{***}
	(0.023)
month_v2x_polyarchy_lag	0.209
	(0.526)
months_since_concession	-0.140^{***}
	(0.013)
months_since_concession_squared	0.005^{***}
	(0.001)
months_since_concession_cubed	-0.00004^{***}
	(0.00001)
log_battle_deaths_lag	-0.038^{**}
	(0.016)
log_gdp_pc_lag	-0.149
	(0.182)
month_urban_perc_lag	-0.024
	(0.015)
log_mean_part:month_v2x_polyarchy_lag	-0.193^{***}
	(0.071)
Constant	2.233^{*}
	(1.326)
Observations	11,140
Log Likelihood	$-4{,}352.610$
Akaike Inf. Crit.	8,889.221
Note:	*p<0.1; **p<0.05; ***p<0.01