



Analysis

Democracy and climate change policies: Is history important? ☆

Per G. Fredriksson ^a, Eric Neumayer ^{b,*}^a Department of Economics, University of Louisville, Louisville, KY 40292, United States^b London School of Economics, Department of Geography & Environment and Grantham Institute on Climate Change and the Environment, Houghton Street, London WC2A 2AE, UK

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ABSTRACT

This paper argues that it is countries' historical experience with democracy, the democratic capital stock, rather than current levels of democracy that determines current climate change policies. Empirical evidence using data starting as far back as year 1800 for 87 countries, which together are responsible for 93.7% of global carbon emissions, suggests that the democratic capital stock has an important and robust effect on climate change policies. A history of executive constraints is particularly important. The current level of democracy does not play a role once democratic capital has been accounted for.

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1. Introduction

The recent Arab Spring, with its promise of a further spread of democracy, brings renewed attention to the issue of democracy and its effects on social and policy outcomes. While the Arab Spring has yet to deliver on its promise and the environment does not feature much in the struggle between the democracy activists and the authoritarian regimes, an improved understanding of the relationship between democracy and environmental policies appears highly relevant and important. In this paper, we seek to shed new light on the empirical effects of democracy on climate change policies. In contrast to the existing literature, we focus on the effects of countries' long run history of democratic experience. We aim to contribute to our understanding of how the democratization process occurring across the globe for the last two centuries determines recent policies addressing climate change. In particular, we investigate the effect of “democratic capital” on environmental policies addressing climate change, where “democratic

capital” is defined, following [Persson and Tabellini \(2009\)](#), as a country's accumulated stock of civic and social assets built by historical experience with democracy.

The existing theoretical and empirical literatures on the effects of democracy on environmental policies and quality have reported ambiguous or weakly positive effects. We argue that this literature is incomplete and misses potentially important effects; it has not fully taken countries' histories of democracy and autocracy into account, in particular with regard to recently implemented climate change policies.

Our empirical work utilizes the Climate Laws, Institutions and Measures Index (*CLIMI*) from [Steves et al. \(2013\)](#), a composite index of multiple aspects of climate change policy. Using data classifying countries as democracies and autocracies going as far back as year 1800, we find that democratic capital has a robust positive effect on national and multi-lateral policies addressing climate change. Moreover, once we control for democratic capital, the current level of democracy has no significant impact. These results are robust toward including further control variables, instrumenting for democratic capital with the democratic capital of contiguous countries and excluding countries from certain regions one at a time in regional jackknife estimations. Our results also hold up to using an alternative dependent variable ([Esty et al., 2005](#)), measuring the degree of global environmental cooperation. In an extension, we differentiate between two different components of our democracy measure. We find that the stock of executive constraints, i.e., a larger cumulative historical experience with constraints facing the executive, drives our

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* Corresponding author. Tel.: +44 2079557598; fax: +44 2079557412.

E-mail address: e.neumayer@lse.ac.uk (E. Neumayer).

results. In contrast, the stock of political competition has no statistically significant effect.

It appears that we cannot expect climate change policies (and perhaps international environmental policies more generally) to improve rapidly in countries that recently experienced democratization. Only over time do democratic principles penetrate a society and its policymaking apparatus sufficiently to have a positive effect. If countries consolidate democracy, and in particular put sufficient constraints on the executive, we expect environmental policies to become more stringent over time.

The paper is organized as follows. Section 2 revisits the effect of democracy on the environment and develops our argument why democratic history matters. Section 3 reviews the existing literature and Section 4 discusses our empirical approach and data. Section 5 reports our main results, while Section 6 presents our robustness analysis. Section 7 concludes.

2. Revisiting the Effect of Democracy on the Environment: Why History Matters

A number of theoretical predictions exist regarding the effect of the current level of democracy on environmental policies. Congleton (1992) argues that autocrats' time horizons are shorter and they therefore set weaker environmental policies. An autocratic ruler is also likely to appropriate a larger share of the economy's income for himself, which has an ambiguous effect on the strictness of environmental regulations. The autocrat's marginal cost of environmental standards increases since she now bears a larger share of the associated fall in national income. Meanwhile, a higher income may also lead the autocrat to set stricter environmental standards if environmental quality is a normal good. However, environmental quality is a public good and the very rich can buy themselves out of the exposure to pollution. Thus, an argument building on environmental quality being a normal good does not apply (Hotte and Winer, 2012).

Bueno de Mesquita et al. (2003) and Acemoglu and Robinson (2006) argue that policymaking in democracies and autocracies differs because policymakers in democracies are forced to take a large share of the population into account, rather than just the elite as in autocracies. In democracies, the loyalties to leaders are weaker, forcing leaders to provide higher levels of public goods in order to survive in office. Olson (1993), McGuire and Olson (1996), and Deacon (2009) argue that the small elites which govern autocracies are focused on personal self-enrichment and are unwilling to forgo private benefits in order to provide public goods that benefit the masses. With a higher level of political participation, delivering social welfare and public goods becomes a greater concern in a democracy, as long as the median voter prefers greater environmental quality (Bättig and Bernauer, 2009). The pressure to take pollution damage (social welfare) into account also depends on the degree of political competition and accountability (Fredriksson et al., 2005; List and Sturm, 2006; Wilson and Damania, 2005). Farzin and Bond (2006) argue that interactions exist between the levels of democracy, income, income inequality, urbanization, education, and age distribution (see also Eriksson and Persson, 2003).¹ Improved democracy is predicted to raise pollution abatement. Barrett and Graddy (2000) and Torras and Boyce (1998) argue that democratization makes citizens better informed and better organized for protest. Bättig and Bernauer (2009) suggest that greater freedom to travel internationally, to pursue joint research, to communicate, and to exchange ideas with foreigners leads to greater awareness of environmental issues, their risks, and their mitigation. Moreover, while democratization stimulates industry lobbying, it also encourages environmental lobbying, including on international cooperation.²

¹ Future research may want to evaluate such interactions using measures of democratic capital. In this paper, we abstract from these issues as we focus on the implications of democratic capital for this literature.

² Bättig and Bernauer (2009) cite efforts to protect the ozone layer as an example.

Since climate change mitigation is a global public good, its geographic scope does not correspond to political jurisdictions. Democratic systems operate primarily at the national (and more local) level, rather than at the international level, and democracy may therefore have a smaller effect on the provision of global transboundary public goods than on local public goods. However, as argued by Bättig and Bernauer (2009) there is no reason why (due to this free-rider problem) further democratization would have differential effects in democracies and autocracies.

While the theories discussed above focus on the policy effects of the current level of democracy, they are still relevant for our empirical investigation which focuses on the stock of democratic capital. Today's environmental policies are the result of numerous historical institutional and policy choices, all influenced by the level of democracy at the time. Different historical experiences with democracy are likely to lead to different policy outcomes, as previous decisions form the base for subsequent choices. Our measure of democratic capital takes this historical process into account. Moreover, our measure helps capture transitions between democracy and autocracy which are by themselves likely to be detrimental to building the institutions needed to produce global public goods.

It may also take time for environmental policy to become a focus of the democratic process. In countries such as Serbia and Sierra Leone with high values of current democracy but with limited histories of democracy, the democratic and electoral process may not have had enough time to focus on a "secondary policy" (List and Sturm, 2006) such as environmental policy.³ Only over time will voters and environmental interest groups (needing time to organize) pressure politicians to start formulating appropriate institutions and policies. One channel through which the democratic capital stock may affect environmental policy is by raising expectations that the country will be a stable democracy in the future (Persson and Tabellini, 2009). Persson and Tabellini report that the probability of a currently democratic country remaining democratic increases with a larger democratic capital stock, and that democratic capital raises economic growth (indirectly, by increasing stability).⁴ Persson and Tabellini argue that a virtuous circle exists where the accumulation of democratic and physical capital reinforces each other. Thus, democratic capital may actually help drive the Environmental Kuznets Curve (EKC) relationship documented in the literature (Dinda, 2004; Fosten et al., 2012). Second, an expectation of continued stable democracy may also result in advocates for environmental policies having a greater incentive to fight for reform because their influence will continue in the future. Third, an expectation of continued democracy increases the time horizon of politicians and political parties. This matters for environmental policymaking where costs occur earlier than the benefits, especially for climate change policies. If democracy is more likely to prevail, democratic parties and their constituent groups are more likely to benefit from implemented environmental policies in the future.⁵ Fourth, if polluting industries have higher expectations that the country will remain democratic it may be relatively less beneficial to wait with investment in pollution control technology and to lobby against regulations. Fifth, competitive leadership selection processes in democracies are likely to yield more competent leaders (Besley and Reynal-Querol, 2011).⁶ Since environmental policies are generally built slowly over time, a history of competent leaders influences policy outcomes positively.

³ List and Sturm provide a model where politicians use a "secondary policy" to cater to an interest group with strong preferences, but only as long as they are eligible for re-election. This model receives empirical support (see also Fredriksson et al., 2011).

⁴ A current autocracy is also more likely to transition into a democracy the greater is its democratic capital.

⁵ Fredriksson and Wollscheid (2013) provide evidence that countries with older (stronger) political parties have stricter national environmental policies, but only if political stability is high.

⁶ Besley and Reynal-Querol report that democratically elected leaders are more likely to be highly educated.

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