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Climate change policies: The role of democracy and social cognitive capital



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ABSTRACT

The impact of democracy on governments' choice of environmental policies has attracted significant academic attention in recent years. However, less attention has been devoted to the role of the social cognitive capital of the national population. Does society's cognitive capital matter in governmental choice regarding environmental policies, if at all? This study addresses this question through a large-N analysis of 94 countries accounting for the role of both political regimes and social capital in governmental choice of climate change policies. We find that higher social cognitive capital within a democratic state radically increases that state's commitment to adopt environmental policies. More specifically, a 1-point increase in the democracy index is associated with nearly 5 points increase in social cognitive capital is associated with a nearly 16 points increase in Social cognitive capital is associated with a nearly 16 points increase in CLIMI. The findings presented in this study aim to contribute to the ongoing debate on the impact of democracy and the cognitive capital of society on international environmentalism. The findings will also be interesting for scholars working on the impact of political institutional factors and the role of society in environmental policy choices made at the international level.

1. Introduction

Environmental degradation has been long recognised as a threat to human health and sustainable development. The consequences of ecological deterioration have important implications for society, as they have been related to a number of major problems such as suicide rates (Wen and Gu, 2012; Ng et al., 2016), symptoms of depression (Gao et al., 2015), life dissatisfaction (MacKerron and Mourato, 2009) and even migration. For example, Jacobson (1988), p. 258) finds that "the growing number of environmental refugees is perhaps the best single measure of global environmental decline". These considerations have spurred both theoretical and empirical studies to understand the reasons for environmental degradation, as well solutions for it. Early papers demonstrated how economic development, trade policies and demographic factors all contribute to explaining aspects of environmental degradation such as air pollution and deforestation (Gradus and Smulders, 1993; Dinda, 2004; Gallagher, 2005; Levinson, 2009).

More recently, with the emergence of environmental lobby groups and an increase in social awareness, the attention of scholars has been directed to the role of society in general and to social cognitive capital specifically. There are many interpretations and definitions of social capital, and intensive debates over its conceptualisation and meaning. This paper accepts the definition of social capital developed by Nahapiet and Ghoshal (1998), who investigated the role of social capital in the development and emergence of so-called "intellectual capital". They distinguished a few forms (so-called clusters) in social capital: structural, relational, and *cognitive*. This paper builds on this approach to understand the role of social capital as an intellectual and cognitive component of society. In other words, this study focuses on the cognitive aspect of social capital, and therefore uses the term "cognitive capital" interchangeably with "intellectual capital" and "social capital".

Following up the growing social awareness of environmental issues and the process of ratifying the Kyoto protocol, a set of studies have attempted to answer the question: "Do democracies show stronger international environmental commitment than non-democracies?" (Neumayer, 2002; Frederiksson et al., 2005; Obydenkova et al., 2016; Frederiksson and Neumayer, 2013). However, the conclusions and evidence presented in these emerging studies remain ambiguous about the impact of democracy and environmental protection.

This paper aims to contribute to these nascent studies by incorporating a cognitive social aspect that has been previously overlooked in

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http://dx.doi.org/10.1016/j.envres.2017.05.009 Received 6 April 2017; Received in revised form 5 May 2017; Accepted 8 May 2017 Available online 29 May 2017 0013-9351/ © 2017 Elsevier Inc. All rights reserved. the empirical modelling of climate change policies: cognitive skills at a national level. As defined in Gottfredson (1997), p. 13), "[cognitive ability] is a very general mental capacity which, among other things, involves the ability to reason, plan, solve problems, think abstractly, comprehend complex ideas ... [and] it reflects a broader and deeper capability for comprehending out surroundings". At a cross-country level, cognitive abilities are robustly linked to economic growth, institutions and political regimes and a population's environmental awareness.

This study takes a step further and argues that democracy and intellectual capital (also referred to in this paper as "cognitive capital") have an important impact on international environmental commitment. The paper analyses the relationship between cognitive abilities, democracy and the Climate Laws, Institutions and Measures Index (CLIMI) based on a sample of 94 countries. The study finds that both democratic institutions *and* the cognitive abilities of the population positively impact on climate change policies at an international level.

2. The "State-of-the Art" and Hypotheses

The debates on the impact of democracy and society on environmental protection have so far been inconclusive. Democracy is associated with a lower level of corruption and better control over public resources, as well as civil society's control over the election process and the reduction of electoral fraud (Ostrom, 1990; Obydenkova and Libman, 2013). Democracy also implies higher responsibility of the officials and bureaucrats in managing public funding, transparency and the rule of law. In contrast to non-democracies, where the government often exercises control over the mass media, democratic states enjoy the freedom of mass media, which increases the quality of information and the awareness of civil society, even in transitional political regimes (Obydenkova, 2008). In a democracy, therefore, the media reports to the electorate about environmental issues as well as about governmental actions in this respect. Thus, a free and independent media in a democratic state increases the awareness of electorate on the environmental problems and on the governmental choices regarding the environmental policy in general and climate change policies in particular. An open and transparent media is also associated with a number of external influences in terms of democracy promotion and cross-border diffusion of values like the government's responsibility to society (Lankina et al., 2016b; Libman and Obydenkova, 2014a; Obydenkova and Libman, 2012; Obydenkova, 2012). In turn, the diffusion of democracy and open cross-border communication increase the social awareness of environmental issues and evaluation by the electorate of governmental policies. In contrast, in a non-democratic society, corruption tends to be higher (Obydenkova and Libman, 2015). Among many other issues, this also implies that public funding for environmental policies and other related issues may simply be misdirected.

On the other hand, democratic governments are re-elected by the population with a certain frequency based on public evaluation of benefits provided by the government to the people. Therefore, any government faces a choice: to invest in short-term socioeconomic programs providing visible benefits to the electorate and, thus, increasing chances of re-election, or to invest in long-term, far less visible projects such as environmental protection (Libman and Obydenkova, 2014b). This governmental dilemma is present in any state, but it is even more pronounced in a democratic state, where the government may risk losing the next election. One of the most recent examples is the current policy of the newly elected president of the United States, Donald Trump. While the US is one of the strongest democracies in the world, the elected president does not favour funding long-term policies of environmental protection. Among others, Greshko (2017) describes the radical change represented by Trump's administration as follows: "Many of the actions roll back Obama-era policies that aimed to curb climate change and limit environmental pollution,

while others threaten to limit federal funding for *science* and *the environment*. [...] The Trump administration takes power amid the first days of *meaningful international action against climate change*, an issue on which political polarisation still runs deep" (emphasis-cursive added).¹ At the same, it would hardly be fair to say that the current US administration reflects the will of the population. It faces strong lobbying on the part of the US environmentalists, and strong criticism from a significant portion of civil society and especially the intellectual elite (encompassing the academic elite and artists) – not to mention the fact that its measures are constantly attacked and criticised by the independent US media. Still, the example of the Trump's environmental choices is illustrative in this context. These choices are much more pronounced in democratic states than in totalitarian ones due to the control exercised over elections and over the mass media in a non-democracy.

On the other hand, it is also relevant to note that the developed democratic states are also mainly those with a predominant, strong market economy ruled by profit-oriented entrepreneurship. Statistical evidence demonstrates that economically developed democratic nations emit four times as much greenhouse gas (GHG) per capita than developing or under-developed low income states (Shuka, 2009; Obydenkova and Salahodjaev, 2016). Environmental commitments and reforms might not be in the best interests of either market economy entrepreneurs or their employees.

Yet another set of literature looks into the implications of different aspects of democratic political institutions for public policy funding, including the size, nature and composition of government (Obydenkova and Salahodjaev, 2017). As stated above, these studies on political institutions, regimes, social intellectual capital have so far been detached from the studies on the role of social capital and cognitive abilities in environmental degradation and in climate change policies in particular.

Based on the sets of studies outlined above, there are several theoretical predictions regarding the positive effect of intellectual human capital (social cognitive abilities) on environmental policies. First, national cognitive skills will lead to greater environmentalism through public awareness and economic development. Cross-national studies show that "as incomes rise, the demand for improvements in environmental quality will increase, as will the resources available for investment" (International Bank for Reconstruction and Development [IBRD], 1992, p. 39), and that cognitive abilities increases likelihood of adoption pro-environmental policies by increasing GDP per capita (Weede and Kämpf, 2002; Jones and Schneider, 2006). For example, Jones and Schneider (2006) used the human capital augmented Solow model for a cross-section of 81 countries and estimated 1330 regressions with numerous control variables suggested by the literature. The authors found that cognitive abilities have a statistically significant positive effect on GDP per capita in 99.8% of cases. Meisenberg (2012), p. 103) argues that "wealth producing activities such as running a business, designing buildings, treating diseases and innovating are done more effectively by persons with higher general intelligence". This implies that variations in personal income are also caused by differences in cognitive skills, and that therefore these phenomena should also exist across nations.

Second, socio-intellectual capital is paramount for environmental policies at both a micro- and macro-social level. Cognitive abilities are necessary for institutionalised environmental commitment, protecting the environmental resource base, environmental stringency and government effectiveness. In this vein, studies show that social cognitive abilities at a national level are positively associated with the environmental performance of a state's policies (Salahodjaev, 2015a), refor-

 $^{^1}$ Though it is not central to the focus of this article, it is still an important observation that two long-term benefits – science (the future *intellectual capital* of the nation) and environmental policies – are most likely to face cuts from federal funding.

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