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World Development Vol. 59, pp. 1–15, 2014

0305-750X/$ - see front matter

http://dx.doi.org/10.1016/j.worlddev.2014.01.016

Comparing the Climate Policy Performance of Emerging Economies

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Summary. — Domestic climate policies and the actual environmental performance differ between emerging economies. Using a fuzzy set Qualitative Comparative Analysis (QCA), this paper tests the influence of the domestic green industry, the ratio of fossil fuels to financial power, the international negotiating position, and the environmental civil society in Brazil, China, India, Indonesia, South Korea, Mexico, and South Africa. A bad ratio of domestic fossil fuel production to financial power and a weak environmental civil society are a sufficient condition for weak climate policy performance. A weak domestic green industry combined with a weak influence of the negotiations only explains some of the cases.

Key words — climate change, environmental performance, emerging economies, green economy, QCA

1. INTRODUCTION

The international climate negotiations in Doha in December 2012 kept the bureaucratic proceedings going, but were devoid of any real breakthrough. Under the Durban Platform for Enhanced Action, a new binding agreement is supposed to come about till 2015. As progress remains slow, the practice of climate governance continues to shift to other levels. The four BASIC countries Brazil, South Africa, India, and China as well as other emerging economies are no longer completely abstaining from engaging in global climate governance. While commitments at the rhetoric level in the international climate negotiations do not differ that much from each other—largely remaining rather defensive—clear differences exist in the actual climate policy performance of these countries over time. The analysis of the causes for this variance is the aim of this paper.

It is still not fully understood which factors (or which combination of factors) explain (a) the commitment to differing climate mitigation targets and, more so, (b) the differing performance in reducing greenhouse gas emissions in emerging economies. It is also required to examine if larger nonBASIC-economies such as South Korea, Mexico, and Indonesia implement at least slightly deviant programs (BASIC+). Therefore, these next major emitters (apart from oil producers) are included in our analysis.

In International Relations, the latter countries and the interplay of domestic and international factors have been largely left out of a comparative analysis until now. Recent studies compare only the behavior of the BASIC group in the international negotiations (Hallding *et al.*, 2011; Hurrell & Sengupta, 2012; Nhamo, 2010), provide in-depth analyses of one or two BASIC countries (Atteridge, Shrivastava, Pahuja, & Upadhyay, 2012; Betz, 2012; Hochstetler & Viola, 2012; Never, 2012a; Stevenson, 2011; Walsh, Tian, Whalley, & Agarwal, 2011) or focus on specific issues such as the reduction of emissions from deforestation and forest degradation (REDD, e.g., Okereke & Dooley, 2010).

Moreover, only few studies integrate domestic influences into an explanation of international climate policy of these countries. Hallding *et al.* (2011) undertake first valuable steps in this direction, but limit themselves to the BASIC group. Dubash (2009) shows in a useful way that three divergent positions among domestic actor groups impact the Indian negotiating position—an analysis that Michaelowa and Michaelowa (2012) largely confirm. Finally, Rong (2010) compares the influence of several domestic and international factors on the likely future stances of China, India, Brazil, South Africa, and Mexico in the international negotiations. She looks at the ecological vulnerability, the mitigation capability, the amount and financing of technology transferred, international pressure, and the adoption of aggressive climate policies by other countries. Her findings indicate that the mitigation capability of a country is more important than its vulnerability for a proactive stance, while the failure of developed countries to fulfill their financial and technology transfer obligations present a hindering factor. These results can, however, only explain the prospective negotiating position of the BASIC+, not the actual impact of these positions or the environmental outcome dimension. Moreover, the comparison itself could be significantly improved by a more rigorous methodological proceeding.

Overall, research that makes a systematic connection between domestic and international levels to explain the differing behavior of the BASIC+ with a focus on actual outcomes has not reached a sufficient stage yet. In this paper, we therefore

* We thank Julia Grauvogel, Robert Kappel, and the members of the GIGA research team "Foreign Policy Strategies in the Multipolar System" for their helpful comments and suggestions on earlier versions of this paper. Final revision accepted: January 15, 2014.

ask: *Which factors explain the differences in the climate policy performance of the BASIC+?*

This article provides answers to these questions through the conduct of a fuzzy set Qualitative Comparative Analysis (fsQCA) and a qualitative discussion of the individual cases. Qualitative Comparative Analysis (QCA and fsQCA) provides tools to test combinations of conditions and to differentiate between necessary and sufficient conditions. This method has been recommended for the analysis of multi-level policies (Lacey & Fiss, 2009) like climate policy. QCA is particularly suitable for a small to medium number of cases (10–50) that are at least partly assessed with qualitative data. Moreover, the method allows for multiple, possibly collinear independent conditions that cause the outcome in cumulative equifinal combinations (Ragin, 2008). This contribution thus presents a novel comparative analysis of internal and external causes for the climate policy of the BASIC+ and their evolution. We argue that these countries share certain features that explain their still somewhat restrictive behavior in international climate negotiations. Despite their once unified international position, national climate-related actions and their impact differ markedly.

The paper is structured in five sections. In the first section, we present our theoretical framework and the four hypotheses we seek to test. The second section follows with a brief overview of our methodological approach. In the third section, we turn to the fsQCA calibration and tests for necessary and sufficient conditions. In the fourth section, we provide a discussion of the fsQCA results in the light of the behavior of the BASIC+ in the international climate negotiations. Additionally, we discuss the strength, positions, and activities of domestic civil society, business, and government agencies. A concluding section summarizes the results.

2. THEORETICAL FRAMEWORK

We aim to contrast and test the explanatory power of four different arguments resulting from different schools that integrate domestic factors into climate foreign policy concepts. The first one can be termed the International Political Economy (IPE) view. Authors analyze the role of business and technological power (Falkner, 2008) and propose alternative explanations for the state of global environmental governance or climate capitalism that focus on the relationship between states, markets, and civil society (Newell, 2008; Paterson, 2000). Game-theoretic and public choice explanations share some of the basic assumptions of the IPE literature (Carraro & Fragnelli, 2004; Mayr, 2009). They generally accept that cost–benefit calculations, the role of companies, and business associations are important forces in international climate policy. Game theoretic and public choice approaches emphasize the rational choice model of decision-making and the primacy of individual-relational interests. Public choice theorists extend it to other interest groups such as voters. The impact of domestic level factors on the international behavior of a government then becomes a reflection of rational preferences and perceived political incentives for more or less proactive climate policies. Change primarily occurs if it makes commercial sense, or if relevant domestic groups identify exogenous developments that may produce losses for them, e.g., higher costs due to delayed action on climate change. This is in line with the general idea of Putnam's (1988) two-level game.

Following these rational choice arguments, it can be assumed that the BASIC+ will only commit more strongly to climate policy if economic growth and development are not compromised, or if opportunities or threats are identified by domestic groups pressuring their governments. Domestic groups shall comprise only "green" and traditional enterprises (in their relative weight), as the remaining civil society is dealt with in Hypothesis 4. We deduce the following hypothesis from this:

Hypothesis 1. If domestic industry groups identify economic opportunities that converge with climate change goals, and are relatively strong compared to traditional sectors, then the government commits more strongly to managing climate change, leading to a stronger performance.

The debate about the mitigative capacity or mitigation capability of a country is related to the modeling of abatement costs in economics, but analyses are based on a broader account of socio-economic factors (Richerzhagen & Scholz, 2008; Rong, 2010; Tompkins & Adger, 2003; Winkler, Baumert, Blanchard, Burch, & Robinson, 2007). In its most simple form, the concept of mitigative capacity captures "the ability of a country to reduce anthropogenic greenhouse gas emissions or to enhance natural sinks" (Winkler *et al.*, 2007, p. 694). Different authors integrate different socio-economic data in their assessments; some add the ecological vulnerability (e.g., Rong, 2010). The shift of the energy structure of a country to more renewable energies requires large financial outlays by state agencies as the energy sector of the countries selected is still dominated by state enterprises. Both political and financial incentives are required to induce this change. Up to now, however, greenhouse gas emission taxation only happens on an experimental basis in emerging economies. Since the "low hanging fruit" of energy efficiency has not been completely picked yet—the so-called energy efficiency gap (Alcott & Greenstone, 2012)—private investments matter, but may need carefully constructed political support (see Section 5). For operationalization, we therefore settle on the ratio of fossil fuel production of a country to its financial capacity, measured by the fiscal balance and income per capita, while taking into account the size of the economy. We exclude education and skill levels as well as the absorptive capacity for technologies relevant to mitigation because in-depth data on mitigation-specific technological capacities was not available. General data on schooling, for example, do not give adequate insights.

Accordingly, we hypothesize:

Hypothesis 2. The ratio of fossil fuels to the financial capacity determines the ability of a country to implement climate policy. If this ratio is favorable (less fossil fuels, more financial capacity), then countries' performance is strong. If the ratio is unfavorable, then countries perform weakly.

Another important group of approaches follows normative-institutionalist arguments (Cass, 2006; Stevenson, 2011) and gives more attention to the role of the global environmental civil society for global norm-building (Hochstetler & Viola, 2012; Schroeder, 2008). The interplay between domestic and international normative attitudes may come about through framing or grafting (Stevenson, 2011). In international climate policy, recent years have seen a shift toward the position that all countries have to do their share to control climate change. This position is shared not only among the industrialized countries, but increasingly by least developed countries, the small island states and—tentatively—even some emerging economies. We assume that this is a new informal international norm. Previously, the G-77 (including the BASIC and most other emerging economies) formed a defensive