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Do Voters Support Local Commitments for Climate Change Mitigation in Italy?

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ABSTRACT

There is a growing interest in voluntary programmes for climate change mitigation, including greenhouse gas (GHG) emission reduction commitments. This paper gauges evidence on the support of citizens for climate change mitigation programmes at the local level, analysing voting behaviour. A quasi-experimental set-up is offered by the EU Covenant of Mayors (CoM) initiative, which is the mainstream European movement for local authorities voluntarily committing to meet and exceed the European Union 20% GHG emission reduction target by 2020. The electoral impact of the participation of Italian municipalities to the CoM is estimated, using an instrumental variable (IV) approach. Mayors committing to reduce greenhouse gas emissions in their municipality appear not to lose electoral support at subsequent elections; this is contrary to what would be implied by a simple (biased) ordinary least squares regression. Moreover, IV point estimates are positive, albeit insignificant at standard levels; this could be due to the possibility of some support of citizens for emission reduction commitments. Finally, strong heterogeneity in socio-economic and demographic characteristics is found, with support of the CoM being more pronounced in wealthier and younger cities.

1. Introduction

Mounting scientific evidence on the causes of climate change and its potential consequences has increased the relevance of environmental policies for greenhouse gas (GHG) emission reduction (see, for instance, the recent 'Energy Union' priority of the European Commission (EC, 2015)). However, national and local actions for climate change mitigation generate mostly global and future benefits (differently from local pollution attenuation), undermining the political incentive for it.

This paper tests one source of political incentives for climate change mitigation: the existence of an electoral dividend for mayors that commit to reduce emissions at the local level. In particular, it estimates whether the political commitment to reduce municipal emissions, undertaken within the EU Covenant of Mayors, has a positive or negative impact on electoral support at subsequent elections for incumbent mayors running for a second term.

Action for climate change mitigation requires strong and unwavering political commitment. For this reason, international initiatives are growing to overcome coordination failures and strengthen joint efforts for emission reduction, including international coalitions, voluntary agreements and peer-review processes.

The UN Framework Convention for Climate Change is the widest coalition for emission reduction. It involves more than 195 countries in the world, including the largest CO_2 emitters, all with intended nationally determined contributions submitted to the conference of Parties in Paris (December 2015). The analysis of efficiency and stability of large coalition has been studied, for example, by Bréchet et al. (2011).

Local alliances supporting voluntary agreements at different administrative levels have also been launched to involve subnational and local actors, focusing on bottom-up and multilevel governance approaches. They generally rely on the voluntary engagement of local authorities without any legally binding commitment.

International examples of local alliances for emission reduction have been growing since the early nineties. The basis of this study is the EU Covenant of Mayors (CoM). It was formed in 2008 and it is now the mainstream European movement for local authorities

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voluntarily committing to meet and exceed the European Union 20% GHG emission reduction target by 2020 (as laid down in the Europe 2020 strategy), under their mandate (Cerutti et al., 2013). Other international networks are the ICLEI - Local Governments for Sustainability, established in 1990 (ICLEI, 2014); the U.S. Conference of Mayors Climate Protection Agreement, launched in 2005 (The US Conference of Mayors, 2007); and the UN Compact of Mayors, an agreement between existing city networks created in 2014 (UN Headquarter, 2014). Interest for local climate policies is also growing in China, as analysed by Zheng et al. (2014).

A wide economic literature on the attractiveness and effectiveness of environmental voluntary agreements between public authorities and the private sector has been developed. Carraro and Lvłque (1999), Croci (2006), OECD (2003) are notable example developing an extensive assessment of the effectiveness, efficiency and adequacy of public-private voluntary agreements compared to traditional "command and control" policies. Both the policy tools used by CoM cities to induce changes in private sector emissions as well as their effectiveness rest beyond the scope of the present work.

The scope of the current work is to look at multilevel governance approaches to climate change mitigation within the public sector. The analysis of relevant drivers supporting the political engagement of mayors for climate mitigation is of key importance given the consistent contribution of cities to global emissions and the limited ability of national and supranational authorities to act at the local level, in line with the principle of subsidiarity (Collier, 1997). In particular, the electoral support for local commitments to reduce GHG emissions is under scrutiny.

Electoral incentives (in addition to the activity of lobby groups) seem to explain the stringency of environmental policies (Fredriksson et al., 2005) and the level of environmental spending (Bouton et al., 2013; List and Sturm, 2006). Environmental preferences of citizens have also been empirically proven to be a driver of new emission reduction policies at the local level (Kahn and Morris, 2009) and city climate planning (Millard-Ball, 2012). On the contrary, they seem not to be a determinant of carbon emissions for firms (Cole et al., 2013; Matisoff, 2013).

The political commitment to reduce emissions may have a positive effect on electoral results if there is a demand for environmental policies (and if the commitment is credible). When interviewed, EU citizens ask for stronger environmental protection (EC, 2007, 2011). For instance, in the 2011 Special Eurobarometer survey, EC (2011), 63% of EU citizens stated that the European Union is not doing enough to use natural resources efficiently, despite the ambitious Europe 2020 targets. But, do stated preferences translate into voting behaviour at the municipal level? Are emission reduction commitments, undertaken within a global alliance, rewarded (or punished) by voters at the local level?

The CoM provides a unique quasi-experimental setup to assess the electoral impact of emission reduction commitments at the local level. Self-selection of mayors into the CoM and the resulting endogeneity bias is solved here thanks to an intention-to-treat instrumental variable approach. An exogenous instrument for the effort required to join the movement is available through the so-called 'Covenant Territorial Coordinators' (CTCs), as described in the following sections. This allows to estimate the impact of joining the CoM on the electoral result of an incumbent mayor[1], i.e. to answer the question: "Does the CoM increase the approval of a candidate?"

The electoral effect of voluntary participation in the CoM, for the average city, is found to be null. However, socio-economic and demographic heterogeneity are found to be key in explaining the presence or absence of individual support for emission reduction commitments. Citizens living in poorer cities seem not to support emission reduction commitments, contrary to richer cities. A simple hierarchy of needs approach predicts environmental concerns to be negatively related to economic conditions, as Kahn and Kotchen (2011) found looking at the frequency of related searches on the web.

The rest of the paper is organised as follows. The details of the Covenant of Mayors are reported in Section 2. Section 3 describes the dataset while Section 4 provides the empirical framework of analysis and the identification strategy. Potential sources of endogeneity are assessed based on the literature on the political economy of environmental policies. Results are reported in Section 5. Section 6 concludes.

2. The Covenant of Mayors Initiative and Similar Policies

The Covenant of Mayors (CoM) is the mainstream European movement involving local authorities voluntarily committing to meet and exceed the Europe 2020 target of GHG emission reduction (−20 % by 2020), under their mandate.[2] It was launched by the European Commission after the adoption of the EU Climate and Energy Package, in 2008, to encourage the implementation of sustainable energy policies at the local level. Based on the subsidiarity principle, different institutional levels are invited to cooperate in order to locally address the global challenge of climate change. In particular, mayors willing to formally commit to reduce emissions need to adopt and implement a Sustainable Energy Action Plan (SEAP) within their mandates, whose consistency is ensured by the technical assessment of the European Commission - Joint Research Centre (JRC).

In 2015 the new Covenant of Mayors for Climate and Energy was announced by European Commission Directorate-General Energy. The CoM mandate was extended to cover both mitigation and adaptation, and a time horizon to 2030 (in line with the EU's 2030 climate and energy package).

In Italian municipalities, the CoM is the best known and recognized action primarily targeting the reduction of GHG emissions. This is evident from Fig. 1, reporting the standardised frequency of Google searches in Italy (overall average and time trend) for the key words "Covenant of Mayors" (solid line); "Patto dei Sindaci", the Italian translation for CoM (dash-dotted line); any "Other" similar policy discussed below (dashed line, which is flat at zero). Strong interest in the Covenant of Mayors starts in January 2010 and any alternative initiative is negligible compared to it.

The number of mayors participating in the CoM has increased over time. There were 5049 signatories over 47 participating countries by March 2013 (4916 signatories in the EU-28), corresponding to a population of 187 million (160 million in the EU-28), see Cerutti et al. (2013). By the end of 2013, they grew to 6186 signatories corresponding to 213 million inhabitants and to an overall GHG reduction commitment of 27% (7% higher than the minimum).

Italy is the European country with the highest participation rate, both in terms of number of signatories and inhabitants involved, making it the most suited State to perform a counterfactual analysis. 3355 Italian municipalities joined the CoM by the end of 2013, individually or jointly with other municipalities, corresponding to 50% of total signatories in Europe and 41% of Italian municipalities. As a result, 39 million Italians were covered by the CoM at the end of 2013, corresponding to 65% of the country population.

The adhesion to the CoM requires a noteworthy administrative and technical effort for the municipal administration. Signatories need to compute their Baseline Emission Inventory (BEI) and submit a SEAP, specifying concrete actions to reduce GHG emissions by 2020,

[1] The impact of the CoM on actual GHG emission reduction remains beyond the scope of the present study.

[2] www.covenantofmayors.eu; accessed 01/09/2015.