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Responsiveness in Municipal Government

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Abstract: Municipal governments supposedly empower citizens, giving them the ability to shape their local community based on their political beliefs. In spite of this, we know little about whether municipal government is actually responsive to the wishes of their electorate. In this study, we look at whether the policy implemented by local politicians actually respond to changes in the public mood. To do this, we compile a unique and comprehensive dataset of local fiscal policy, which we use to construct municipal-level estimates of fiscal policy conservatism. This detailed policy data is then linked to several measures of local ideological sentiment. We find strong evidence for dynamic responsiveness: if public opinion in a municipality changes, then public policy responds. We also look at whether single party control of the city council affects the level of responsiveness. We identify this effect using a close elections regression discontinuity design, comparing the responsiveness of city councils where the largest party narrowly won a majority of the seats with city councils where the largest party narrowly lost.

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Introduction

In most developed countries municipal governments are an essential cog in the machinery of representative government. While they work within the framework of a national constitution and are generally subordinate to the central government, municipalities are, on average, responsible for a third of all public spending and, in most countries, they are able to levy taxes with little or no oversight OECD (2016). In this way, they play a central part in the quintessential political act of deciding who gets what, when and how. Yet until recently, we knew little about the extent to which municipal governments are actually responsive to their citizens preferences.

This changed with Tausanovitch and Warshaw (2014) recent study, which was the first "comprehensive study about whether city policies are actually responsive to the views of their citizens" (p. 605). In this study, Tausanovitch and Warshaw used Multilevel Regression with Poststratification (MRP) to estimate the policy preferences of citizens in a cross section of all US cities with a population size of above 20,000, finding that there is a strong correlation between these preferences and city policy. Since the publication of this study, two others studies have directly examined municipal responsiveness. The first of these are Einstein and Kogan (2016) who also identifies a strong correlation between citizen preferences, measured using support for the Democratic party, and city policy in 2,000 midsize US cities. Other than replicating the findings from Tausanovitch and Warshaw (2014), Einstein and Kogan are also able to identify the use of intergovernmental grants as a key mechanism underlying responsiveness. They also offer a stronger identification strategy by identifying dynamic responsiveness (Stimson et al., 1995, cf.) in a panel of cities from two US states using a lagged dependent variable approach. In an unpublished study by Sances (2017a) expands on these findings using a panel of 3,000 US counties which spans the last 50 years. Linking changes in democratic vote share to county-level policy, Sances finds that as counties grow more democratic they tend to spend more and collect more revenues. This is even true within states, suggesting that the link between voter preferences and public policy are driven by local governments.

Importantly, a number of other studies present indirect evidence that city policy might be responsive. For one, a number of recent studies have shown that voters tend to (re-)elect local politicians based on their actions in office (Arnold and Carnes, 2012; Burnett and Kogan, 2017) and that voters tend to vote for conservative (liberal) mayors if they themselves identify as conservative (liberal) (Sances, 2017b; Boudreau et al., 2015; Hopkins and Pettingill, 2017). Similarly, a studies have found that it matters for city policy whether a conservative or liberal party controls the mayoralty

and/or the city council (Fiva et al., 2016; Folke, 2014; Blom-Hansen et al., 2006; de Benedictis-Kessner and Warshaw, 2016). While these factors are necessary for the presence of municipal responsiveness, they are not sufficient. Even if voters tend to select politicians who share their ideological disposition, and even if these politicians tend to enact policies which reflect this disposition, these mechanisms need to operate in tandem, and be quite strong, in order to create responsiveness. If, for instance, politicians only have modest control over city policy, voters would need to send very strong policy signals through their vote in order for city policy to respond.

All in all, research in the area of municipal reponsiveness has made impressive progress in the past five years, giving us evidence which strongly suggests that municipal governments are responsive to the concerns of their citizens, however, existing work is also limited in several ways.

For one, most of the existing studies, and *all* the studies which study responsiveness directly, focus exclusively on a US context. This puts into question whether municipal responsiveness is a result of the particular set of political institutions and culture which exists in America, or whether voters are able to hold politicians electorally accountable for the policy they implement in other contexts as well. In relation to this, the existing studies all look at relatively large municipalities (Einstein and Kogan, 2016 has the smallest average city size of 40,000 inhabitants), making it unclear whether smaller municipalities are also equally responsive.

In addition to this, there seems to be a trade-off in the existing work between good data on policy outcomes and voter preferences (Tausanovitch and Warshaw, 2014, cf.) and having a stronger identification strategy (Sances, 2017a, cf.). This is potentially problematic, as strong inferences about the extent of municipal responsiveness requires both good measures and a good design.

Finally, existing work has primarily focused on identifying whether and when municipal responsiveness exists. As such, there is almost nothing on whether certain municipal-level institutions can help promote (or depress) responsiveness.

In this study, we address these limitations related to context and data by studying responsiveness in Danish Municipalities. Danish municipalities are radically different from US counties and cities. They are small (average size 16,000), organized by general rather than special purpose governments Berry (2009), lead by city councils which typically feature three or more parties, who are elected in a PR electoral system where turnout is relatively high. As such, if we can identify responsiveness here as well as in the US, we can be pretty sure that municipal responsiveness is a (relatively) general phenomenon.

In order to identify responsiveness in this context, we develop a comprehensive annual measure of municipal policy conservatives based on 14 fiscal policy indicators (1978-2016). To measure the ideological sentiment in this time period, we use net support for conservative (right-wing) parties at municipal elections which are held every four years. (In a future iteration we will also use MRP estimates of citizen conservatism based on the Danish National Election Studies.) These uniquely comprehensive data sources set makes it possible to go beyond the trade-off between good measurement and a strong design which has characterized existing work.

We then estimate the level of responsiveness by linking these measures in a difference-in-difference model, showing that when support for right-wing parties increase in a municipality local fiscal policy becomes more conservative.

Empirical Context: Danish Municipalities

Denmark is a decentralized welfare state where municipalities can affect their local revenue and set a yearly budget. Municipal tasks and services include the core welfare services of the Danish welfare state and municipal spending amounts to 35 percent of GDP, which is more than half of all public spending.[3]

Danish municipalities are governed by small local councils (between 9 and 29 members) which are elected at proportional elections and with a multi-party system which, to a large extent, mirrors the party system at the national level (Blom-Hansen et al., 2017). Elections are fixed to take place every four years and do not usually coincide with elections at the national or EU level. Turnout is high with an average of around 70 percent since 1970.

The work in the local council is structured by a a number of committees. The number and size of the committees is determined by the council. Committee membership is allocated proportionality between the political parties which means that there is broad political representation in all committees. The committees can decide on matters in their area and the administrative responsibility across areas is essentially divided.

Following each municipal election, a majority in city council elects a mayor, and the chairmen of the various committees (Serritzlew et al., 2008). Mayors are the only full time professional politicians in the city councils and have a number of formal

[3]The tasks include primary education, child care and care for elderly people, libraries, local sports facilities and other cultural activities, granting and payment of cash assistance, anticipatory pension and certain other social benefits, job activation and employment projects for unemployed persons (unemployment services), public utilities, environmental measures and emergency services.

obligations (Kjaer, 2015). Mayors are also responsible for the day-to-day business of the administration and chairs the important economic committee which sets taxes and the budget.

There have been two large municipal reforms in the last 50 years. The first was conducted in 1970 as the Danish welfare state started to expand. Here the number of municipalities were reduced from more than 1000 to 275.[4] (Although it was 277 the first two years.) so that the municipalities were able to efficiently provide a more complex portfolio of public services (Ingvartsen, 1991). The second reform was conducted in 2007 and further reduced the number of municipalities from 275 to 98. Once again, the increasing complexity of public service provision was a key argument for the reform (Christiansen and Klitgaard, 2008). These two reforms bookend our data collection.

An Annual Measure of Municipal Fiscal Policy Conservatism

To measure fiscal policy conservatism in Danish municipalities we rely on 14 different indicators relating to tax policy (3 indicators), spending policy (2), organization of public service delivery (3), co-payment for public services (4) and the extent of public services (2). While spending and tax variables are commonly used in the literature, the remaining type indicators have not

Our selection criterion was two-fold: (1) the given fiscal policy should be directly or indirectly set by the city council, it had to be a policy (i.e., set only by politicians and administrators) Thus, policies could not be partly decided by the national government. Statistics Denmark keeps a registry of municipal fiscal policy, which provides a good picture of the population of relevant policies. This mean that we did not have to rely on approximations to random sampling. The policies included in the measure are presented in Table 1.

All variables are rescaled to have mean zero and variance one. Furthermore, all variables, where higher values imply a more left-wing fiscal policy, are reversed. This implies that when estimating policy conservatism, higher values of all variables indicate a more conservative policy. In our Bayesian framewwork (see below), neither of this is strictly speaking necessary, but it makes interpretation of model parameters simpler.

[4]In this study, we exclude the municipality of Copenhagen and Frederiksberg, as these were governed in a different way.

Table 1: Indicators of Fiscal Policy Conservatism

Policy	**Availability**	**Direction**
Tax policy		
Income tax (pct.)	1974 -	Lower
Property tax (per mille)	1974 -	Lower
Tax on the cost of commercial real estate (per mille)	1993 -	Lower
Spending policy		
Spending pr. capita (DKK)	1974 -	Lower
Spending pr. pupil in school (DKK)	1993 -	Lower
Organization of public service delivery		
Public Employees (pr. 1,000 citizens)	1993 -	Lower
Privately operated municipal services (pct.)	1993 -	Higher
Purchases with a private supplier (pct.)	1993 -	Higher
Co-payment for public services		
Average cost of day care (DKK)	1993 -	Higher
Price of relief stay (DKK)	1993 -	Higher
Food delivery for the elderly (DKK)	1993 -	Higher
Stay in nursing home (DKK)	1993 -	Higher
Extent of Public Services		
Public housing (pct.)	1993 -	Lower
Class size in public schools	1993 -	Lower

Note: The table outlines the variables used to capture fiscal policy conservatism in Danish municipalities and their period of availability. All variables are rescaled to have mean zero and variance one, and – when appropriate – reversed to have the same direction.

It should be noted that for most of our variables, data is only available after 1993. The Bayesian latent variable techniques, we make use of (more on this below), makes this possible, by imputing missing values as part of the simulation based estimation. This implies, however, that variables with missing values supply less information to the estimation in periods, where we have no data on them. Thus, estimates for the period 1974-1992 are based mostly on our measures of income and property tax as well as spending pr. capita.

To make sure that our results are not driven by the inclusion of different variables at various points in time, we have run all models using only those three variables, which does not change any results substantively.

Maybe for later or the appendix coupled with analysis of beta-parameters etc.: Furthermore, estimates of fiscal conservatism, when including all items and only the three with full coverage are highly correlated. It seems that the main difference bres is that the posterior distribution of the measure including all items exhibits lower variance. Additionally, the three items with full coverage have the most discriminating power, as shown by their higher β's. This indicates that we are able to capture important aspects of fiscal conservatism with those three items alone. The addition of the remaining 11 variables serves to improve the estimation mainly by decreasing posterior variance.etween the two measu

Estimating Fiscal Policy Conservatism

We conceptualize fiscal conservatism as a latent trait driving municipal expenditures, and rely on Bayesian latent variable modeling to estimate it. We parameterize fiscal conservatism through the following measurement model, which allows us to estimate it across time and space:

$$F_{itk} \sim N(F^*_{itk}, \phi)$$
$$F^*_{itk} = \beta_k C_{it} - \alpha_{tk}$$

Where F is the level of the observed fiscal policy variable k in municipality i at time t. the distribution of each of these observed variables is drawn from a normally distributed latent variable F^*, which has variance ϕ. C is the quantity of most interest – the latent fiscal conservatism in that municipality. β is the discrimination parameter, which captures how strongly each observed policy variable loads onto the latent dimension. Finally, α represents each item's difficulty parameter, which measures how fiscally conservative a municipality is, if it were to score 0 on the policy variable k. Note that in future iterations, we will allow α to vary across time capturing that what was a highly conservative fiscal policy stance in 1978 is not necessarily as conservative in 2005.

This parameterization is in many ways similar to frequentist factor analysis. However, a major advantage to using Bayesian techniques to make inferences about the latent trait is that it is simulation based, which allows us to directly estimate uncertainty around all model parameters. Additionally, the simulations will impute missing data during the estimation, which will allow us to include variables with different numbers of observations in the model – the variables with missing observations will simply

supply less information to the estimation. Furthermore, we can use the Bayesian priors to introduce dynamics into the model, thus allowing quantities to not only vary across time, but also directly model temporal autocorrelation. Finally, constraining prior distributions offers a flexible way of identifying the policy space.

To identify the direction of the policy space, we constrain the β's to be negative, so that municipalities scoring higher on our observed policy variables will be estimated to be more conservative. Location and scale is identified by placing standard normal priors on the distributions of all model parameters.

In our simulations, we run 7,500 iterations of the model, where the first 2,500 are burn in. We run three parallel chains. This gave posterior distributions with good properties.

Some Descriptive Statistics

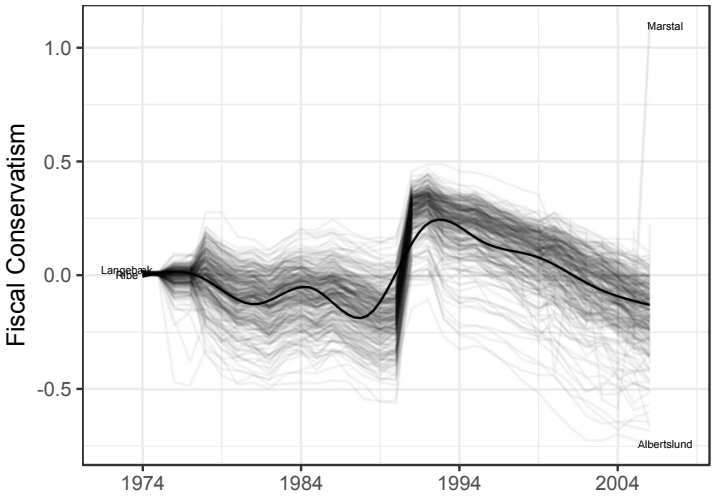

Figure 1: .

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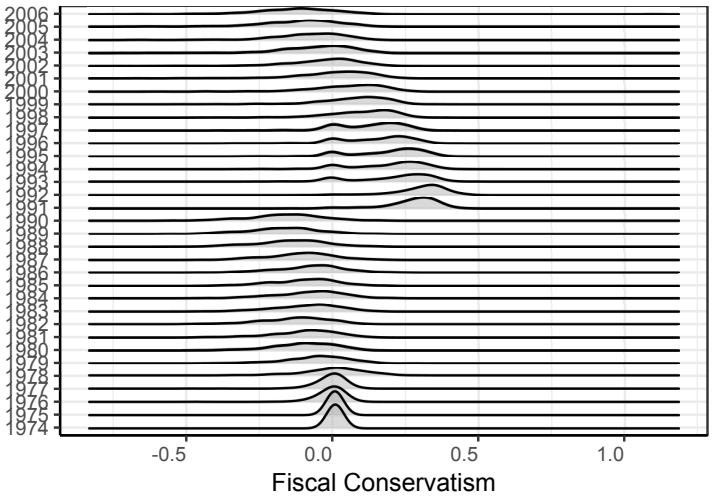

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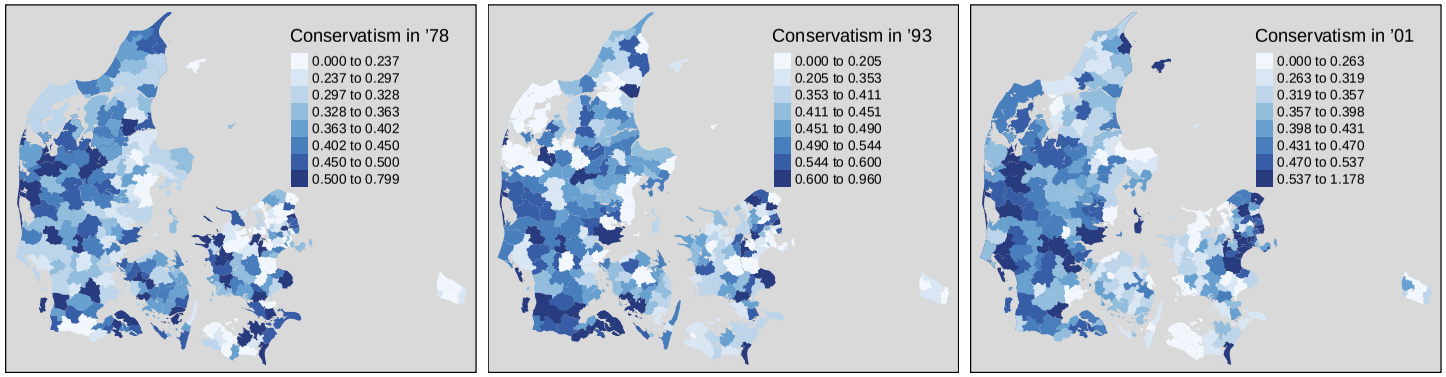

Figure 3: .

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Dynamic Responsiveness

Measuring Local Policy Preferences

Results

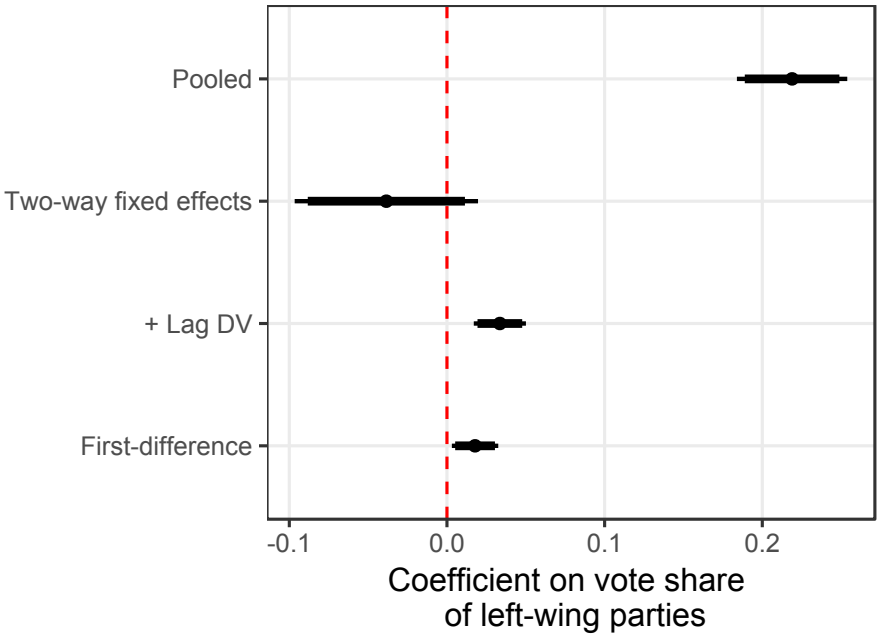

Figure 4: Effect of Electoral Support for Right-wing Parties with a 4-year Lead.

Note: Point are unstandardized OLS coefficients. Lines are 90 pct. (thick) and 95 pct. (thin) confidence intervals computed using Arellano-White robust standard errors clustered at the municipality level, when no lags of the dependent variable are included. Beck-Katz panel-corrected standard errors used for dynamic models. Two and one lags of the dependent variable included, respectively, in the fixed effects and first-difference models.

The Effect of Governing Alone

A Regression Discontinuity in Policy Control

Results

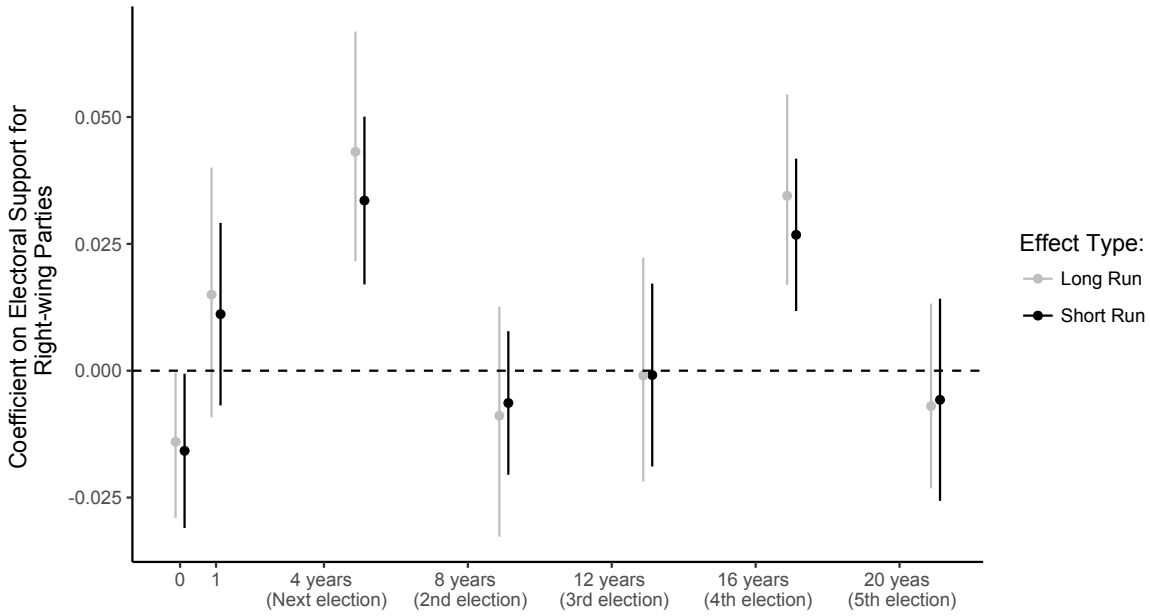

Figure 5: Dynamic Effects of Public Mood.

Note: Black points represent the effect of electoral support for right-wing parties with different leads. Black lines are 95 pct. confidence intervals based on Arellano-White robust standard errors with municipal clustering. Grey points represent the additional long-run effect of electoral support for right-wing parties due to strong temporal autocorrelation in Fiscal Conservatism. Grey lines are 95 pct. confidence intervals computed from the relevant percentiles of a bootstrapped coefficient distribution based on 1,000 replications and resampling at the municipal level.

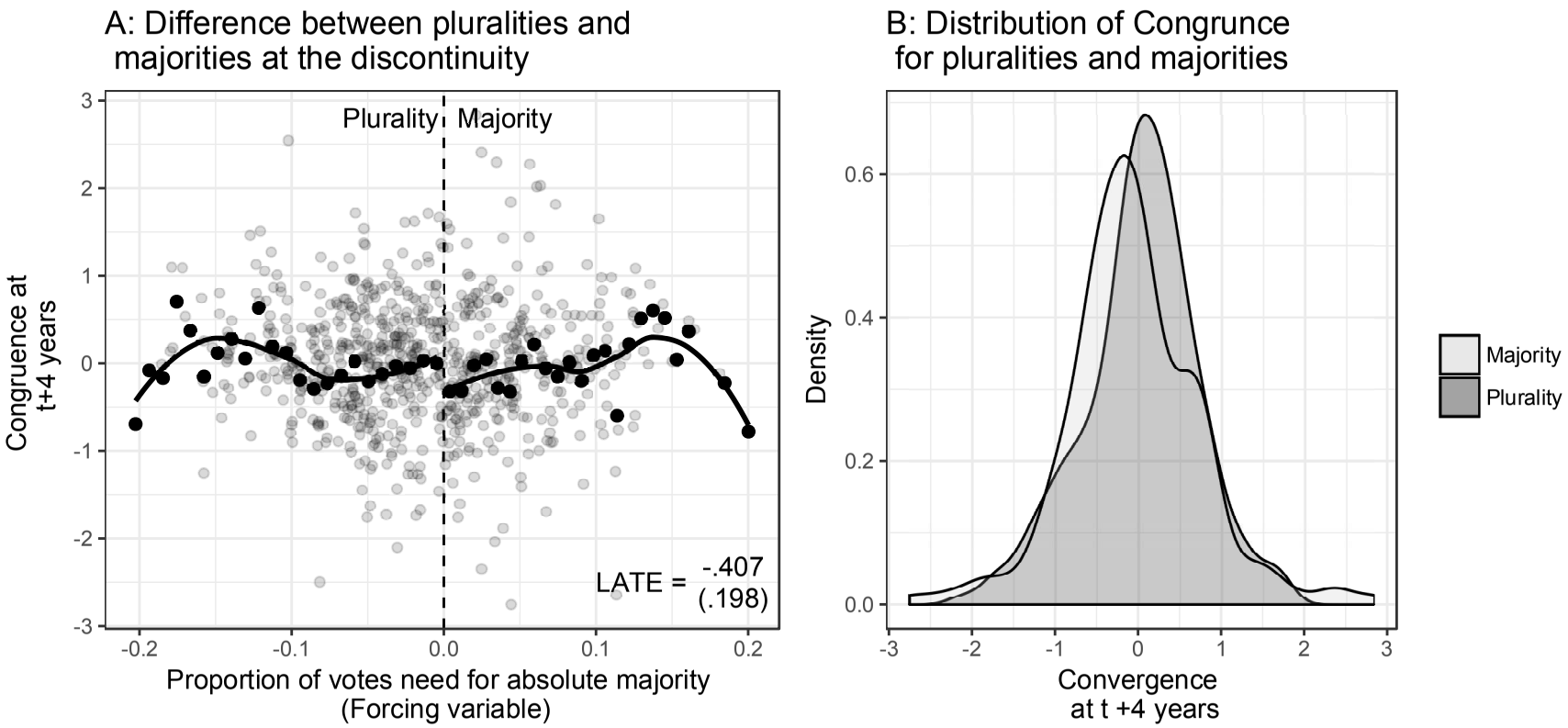

Figure 6: .

Note: .

Conclusion

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Supplementary materials

S1. Descriptive Statistics