

GENERAL RESEARCH ARTICLE

Gubernatorial use of executive orders: unilateral action and policy adoption

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Abstract

Given a smooth compact hypersurface M with boundary $\Sigma = \partial M$, we prove the existence of a sequence M_j of hypersurfaces with the same boundary as M , such that each Steklov eigenvalue $\sigma_k(M_j)$ tends to zero as j tends to infinity. The hypersurfaces M_j are obtained from M by a local perturbation near a point of its boundary. Their volumes and diameters are arbitrarily close to those of M , while the principal curvatures of the boundary remain unchanged.

1. Introduction

Let M be an n -dimensional smooth compact Riemannian manifold with boundary $\Sigma = \partial M$. The Steklov eigenvalue problem on M consists in finding all numbers $\sigma \in \mathbb{R}$ for which there exists a nonzero function $u \in C^\infty(M)$, which solves

$$\begin{cases} \Delta u = 0 & \text{in } M, \\ \partial_\nu u = \sigma u & \text{on } \Sigma. \end{cases}$$

Here, Δ is the Laplacian induced from the Riemannian metric g on M , and ∂_ν is the outward pointing normal derivative along the boundary Σ . The Steklov eigenvalues form an unbounded increasing sequence $0 = \sigma_0 \leq \sigma_1 \leq \sigma_2 \leq \dots \rightarrow \infty$, each of which is repeated according to its multiplicity. Note that if M is connected, then $\sigma_1 > 0$.

Presidential scholars have long emphasised the role of the executive branch in federal policymaking. Presidents develop policies formally through unilateral action, but they also pursue their objectives in the legislative arena. Governors fill an analogous role within their states. They manage the bureaucracy and help set the policy agenda through speeches, calling special sessions or taking unilateral action. I analyse factors that explain gubernatorial use of executive orders, and I consider how these same executive orders influence statute adoption, using lesbian, gay, bisexual and transgender (LGBT) employment protections as an illustrative case. Presidential scholars have long emphasised the role of the executive branch in federal policymaking. Presidents develop policies formally through unilateral action, but they also pursue their objectives in the legislative arena. Governors fill an analogous role within their states. They manage the bureaucracy and help set the policy agenda through speeches, calling special sessions or taking unilateral action. I analyse factors that explain gubernatorial use of executive orders, and I

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Once data are disseminated, whatever contractual or other obligations are placed on those receiving (Baerman et al. 1990, Baker 1985) the data, the data are effectively out of a data providers' control. Data providers must be certain that the data disseminated do not provide a risk of disclosure necessitating a reduction in the detail available, or they are constrained to using a resource intensive auditing regime, and are likely to discover any data misuse only after it has happened. Once data are disseminated, whatever contractual or other obligations are placed on those receiving the data, the data are effectively out of a data providers' control. Data providers must be certain that the data disseminated do not provide a risk of disclosure necessitating a reduction in the detail available, or they are constrained to using a resource intensive auditing regime, and are likely to discover any data misuse only after it has happened.

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2. Gubernatorial and presidential use of executive orders across the various states

Presidents develop policies formally through unilateral action, but they also pursue their objectives in the legislative arena. Governors fill an analogous role within their states. They manage the bureaucracy and help set the policy agenda through speeches, calling special sessions or taking unilateral action. I analyse factors that explain gubernatorial use of executive orders, and I consider how these same executive orders influence statute adoption, using lesbian, gay, bisexual and transgender (LGBT) employment protections as an illustrative case.

2.1. Presidential use of executive orders is largely consistent with expectations and previous literature

The remainder of the findings is largely consistent Chomsky (1959) with expectations and previous literature. Diffusion plays a positive role on states adopting sexual orientation protections; yet, it is not statistically significant in explaining the adoption of transgender-inclusive statutes. As anticipated, legislatures are more likely to adopt both forms of legislation in states where the citizens are more liberal.

2.1.1. Third level heading with two line text style format with two line text style format with two line text style format

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3. Results

3.1. Determinants of executive orders

The probability of a state adopting legislation protecting Cagnetta & Wyart (2024) sexual orientation increases by a factor of 1.11 for a one-unit increase in Liberal Citizen Ideology, and the probability increases by a factor of 2.24 for a five-unit increase in citizen ideology. This effect is even more pronounced for transgender protections. A one-unit increase in Liberal Citizen Ideology increases the likelihood of adoption by a factor of 1.20, and the probability increases by a factor of 2.44 for a five-unit increase in citizen ideology. The findings regarding the Evangelical population hint at a similar conclusion.

Estimation

Using Multilevel Event History Analysis, with the state/year as the unit of analysis Debreslioska et al. (2013), I evaluate the following:

1. The probability that a governor i will issue an executive order protecting LGBT employees in time t , given that no executive order is in place.
They manage the bureaucracy and help set the policy agenda through speeches, calling special sessions or taking unilateral action.
2. The probability that the state legislature i will adopt an LGBT-inclusive employment nondiscrimination statute in time t , given that it has not already done.



Figure 1. *This is a widefig. This is an example of long caption this is an example of long caption this is an example of long caption this is an example of long caption*



Figure 2. *This is an example of short caption this is an example of short caption*

Projectile	Energy	σ_{calc}	σ_{expt}	Energy	σ_{calc}	σ_{expt}
Element 3	990 A	1168	1547 ± 12	780 A	1166	1239 ± 100
Element 4	500 A	961	922 ± 10	900 A	1268	1092 ± 40
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Element 4 ¹	500 A	961	922 ± 10	900 A	1268	1092 ± 40
Element 3	990 A	1168	1547 ± 12	780 A	1166	1239 ± 100
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Table 1. *Tables which are too long to fit, should be written using the “table*” environment as shown here.*

Multilevel modelling accounts for these differences and within-state patterns of adoption seen throughout the years Drager (2011). The effect of determinants that lead to successful statute adoption of LGBT protections share common elements, but differ based on the type of protections added – sexual orientation versus gender identity.

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The final covariates analyse social factors that influence gubernatorial use of executive orders. These results differ across the models. Diffusion is not statistically significant for the sexual orientation model, but reaches conventional statistical significance for the analysis of gender identity protections. This tentatively suggests that governors are more likely to issue executive orders as more neighbouring states add similar protections. Governors are more likely to issue executive orders to protect sexual orientation when the states are more liberal, and composed of fewer Evangelicals. Both terms reach conventional

statistical significance. However, this does not hold when the analysis turns to the determinants of executive orders that protect gender identity. Citizen ideology is not statistically significant and, counter to sexual orientation protections, governors are more likely to issue executive orders when the Evangelical rate increases. These discrepancies may be related to the changing strategies of governors and LGBT advocates in later years, or it may be a reflection of the late adopters that added protections through executive orders, i.e. the remaining governors in states that were still “at risk” of adopting transgender protections were in more socially conservative states. Both models show that governors are more likely to issue protections later into the time frame, and the variance across the states is statistically significant.

- (1) a. der Film
DEF.NOM.M.SG film(M)[NOM.SG]
‘the film’
- b. die Symphonie
DEF.NOM.F.SG symphony(F)[NOM.SG]
‘the symphony’
- c. das Buch
DEF.NOM.N.SG book(N)[NOM.SG]
‘the book’
- d. /doku + ga/ → [dopeʒkuŋa], *[dokugatsáʏà]
poison fang
‘poison fang’

Diffusion plays an inconsistent role in policy adoption, but overall it seems that the diffusion of pro-LGBT policies encourages the issuance of executive orders and adoption of similar legislation. Governors used executive orders more commonly to establish protections for sexual orientation, whereas legislation was more prevalent for gender identity; therefore, this might explain why diffusion is only statistically significant in those respective models.

Supplementary material. To view supplementary material for this article, please visit <http://doi.org/10.1017/Sxxx850725xxxx>

Data availability. Code for all simulations and experiments is available at <https://github.com/morph-order>

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Ethical standard. The larger research project was approved by the UCSB Human Subjects Committee (protocol number 5-21-0059 and 2-20-0480)

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Appendix A: Formal arguments

To illustrate how boosting trees work, Figure A.1 presents a toy example. In this task, we want to classify each observation as being either a circle or a square (these would be our toy genders), based on their position on the *x*-axis and the *y*-axis (these would be our toy predictors). Boosting trees approach this problem by doing multiple iterations and, at each iteration, building a new classifier to solve part of the problem not solved by previous iterations

The first cohort of interns started work with Alexia. The team began by using ELAN to review the pilot survey recordings and devising an inductively arrived-at coding scheme based on the types and range of responses received. Anna used this scheme to create an initial Qualtrics interface for survey coding, adapting the questions to a multiple-choice format where necessary to enable later quantitative analysis. Alexia and the interns also provided the larger MILPA team with feedback on the structure and phrasing of the survey in order to elicit richer responses targeting the desired information when the original question proved ineffective.

Appendix B: RA experience questionnaire

To calculate the uncertainty of the accuracy, we assume that model accuracy is binomially distributed. We organize our data in a table (Table B.1), where each row contains a classification model and the number of correct predictions.

The earlier approach was parsimonious, following the established scientific method, enshrined by Occam. And the justification was that it provided a linguistic model, and that any subsequent psycholinguistic account needed to accomplish at least those results. The approach based on statistical modeling outperforms the parsimonious models (though not reaching full accuracy). However, while we knew exactly how our earlier assignment rules worked, we are less clear about the results from statistical



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modeling. This is a general core question when we apply machine learning models like the ones described in this article: how do they work internally, and what and how do they relate to what humans do? Our methods are a great tool for linguists and can show us how successful a machine-learning approach based on similarities is, but they do not divulge what is going on in the mind of the speaker when performing gender assignment. So while we present impressive results, we have to be cautious and refrain from overambitious claims.

The surprisal of the second slot is the same for Language A. For Language B, the surprisal of the second slot is the same as that in Language A since there are no alternative morphemes; however, if a form were to have more than two morphemes, the surprisal would similarly increase. Thus, we can see that category clustering effectively lowers local surprisal, therefore encouraging more favorable memory-surprisal tradeoffs.

B1. Advantage of fusion

The intuition is as follows: in an agglutinative language, where each morpheme represents a feature unambiguously and in a context-invariant way, morphemes must be slightly redundant when the underlying features cooccur predictably. By contrast, in a fusional language, the substring that corresponds to one feature can adapt based on other features, reducing redundancy.

Now consider the entropy of the second string part Y_2 out of context: $H[Y_2]$. This corresponds to the average surprisal of Y_2 when there is no memory for context. We claim that this can be lower in a fusional compared to an agglutinative language. To support this claim, we show that in an agglutinative language, the entropy of the second string part Y_2 is equal to the entropy of the input feature X_2 ; whereas in a fusional language, the entropy of the second string part Y_2 has a lower bound that is less than the entropy of X_2 .

B2. Advantage of category clustering

Pragmatics is at the heart of this overarching account of the use of spatial loci in sign languages. This allows sign language loci, as agreement markers, to be subsumed by more general accounts of reference resolution. The agreement analysis is supported by the observation that locational modification exhibits typologically common effects of verb agreement, such as argument drop and noncanonical word order.

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