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Diffusion in Direct Democracy: The Effect of Political Information on Proposals for Tax and Expenditure Limits in the U.S. States

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Abstract

Many theories of policy diffusion contend that the flow of information is the driving force in the diffusion process. Prior scholarship has identified at least two types of information: information about policy and information about political viability. Few empirical approaches have been able to distinguish between these separate mechanisms. The authors argue that an analysis of policy proposals can untangle political information from policy-based information. They employ their strategy with data on the proposal of tax and expenditure limits (TELs) in the U.S. states since 1970 through direct democracy. The authors find that states in close geographic proximity to states that have rejected TELs are significantly less likely to propose TELs themselves. Since this event does not reveal information about policy effectiveness, the authors conclude that information about political viability systematically diffuses from state to state at the proposal stage of policy making.

Keywords

policy diffusion, tax and expenditure limits, direct democracy

Information plays a central role in the spread of policy. Existing theories of policy diffusion suggest that decision makers learn from the actions of others. As governments

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conduct policy experiments, they reveal a wide array of information about both the political viability and effectiveness of a policy. We seek to untangle these two types of information empirically and demonstrate how employing data on policy proposals makes possible the identification of the spread of political information.

Our article builds on the recognition that different types of information will diffuse at different stages of the policy-making process (Karch 2007). The proposal stage can help to identify political information about the relative support for a policy. In contrast, the policy implementation stage provides information about both political support and policy effectiveness.

We disentangle political and policy information through analysis of proposals made in direct democracy. When citizens vote on policy, we can clearly identify both policy proposals (Is the policy on the ballot?) and policy implementation (Did the policy become law?) as separate stages in the policy-making process. These distinct phases of policy making allow us to study rejections at the ballot box during which only political information is conveyed. Although both types of information will spread after the passage of a policy, only political information flows from instances of rejected policies.

We examine how passed and rejected policy proposals in direct democracy differentially affect whether or not a policy is proposed in other U.S. states. This approach departs from most previous studies of diffusion, which analyze only the influence of passed policies.[1] Similar to previous analyses, we expect that a policy adoption will increase the probability of a policy proposal in other states. The qualification of this finding, however, is that we cannot conclude what type of information influences this diffusion. In contrast, we predict that a rejection will decrease the probability of a policy proposal in other states. A failed policy proposal does not provide information about the policy's effectiveness, and therefore the information from a rejection is about only how voters will react to a policy proposal.

To analyze the content of information in policy diffusion we examine the spread of tax and expenditure limits (TELs) in the U.S. states. We focus on TELs because they have been proposed and passed throughout the past 30 years at regular intervals, providing us a good time series of data. In addition, there has been considerable research regarding the state-specific factors that affect passage. We find that successful TEL proposals are associated with a higher probability of a TEL in neighboring states, which is consistent with the spread of both political and policy-based information. More importantly, we find that failed proposals reduce the probability of a TEL in a neighboring state, consistent only with the effect of diffused political information.

We proceed as follows. First, we review the literature on policy diffusion, highlighting how our study of diffusion in direct democracy builds on previous contributions in the larger literature. We then introduce our hypotheses about diffusion and discuss the recent literature about identifying the presence of diffusion. Next we discuss our data, describing our key independent variables (measures of U.S. state similarity), the dependent variable (data on TEL proposal), and all other covariates. After presenting the data we describe our methodology and present the results. We also discuss several subsidiary hypotheses that bolster the robustness of our findings and then offer some conclusions and considerations for future research.

Diffusion Driven by Information

Diffusion is commonly defined as "the process by which an innovation is communicated through certain channels over time among the members of a social system" (Rogers 1962, 5). Building on the seminal work of Rogers, scholars have given communication of information a primary role as the driver of diffusion.[2] Those who focus on the role of learning discuss at least two different theories on the content of the information. In one view political actors emulate effective policies (Meseguer 2006; Mooney and Lee 1995; Simmons, Dobbin, and Garrett 2006; Walker 1969). As noted by Berry and Baybeck (2005, 505), "When confronted with a problem, decision makers simplify the task of finding a solution by choosing an alternative that has proven successful elsewhere." This view of learning suggests that the information flowing from state to state is substantive in nature and grounded in policy effectiveness. This type of information about the quality of a policy accrues over time after a policy is implemented.

An alternative view is that information primarily helps policy entrepreneurs learn political information from their peer states. For instance, Graham, Shipan, and Volden (2008, 25) recently noted that "policymakers may be concerned with learning about the policy's political viability and public attractiveness, about implications for reelection and reappointment, or about whether a glitzy modification of the policy could serve as a vehicle in the pursuit of higher office." Boehmke (2005, 74) has also noted the importance of the spread of political information in the initiative process, noting that

> the information that policy outcomes in a state with the initiative process provide about its electorate preferences allows interest groups and legislators in states with similar electorates to formulate a more precise estimate of the probability that an initiative proposed in their state would pass.

Policy effectiveness may be incidental in this view of information because the key aspect of information is its ability to provide political actors with an appraisal of the reaction voters and others will have to a new policy. We expect that information about political viability will influence the decision of a rational policy entrepreneur to propose a policy.

To date only a few attempts have been made to identify the independent effect of each type of information. Gilardi (2010) studies how political actors learn about both policy and politics in his study of diffusion in the European Union. He analyzes whether countries learn about the political reaction to changes in unemployment policy based on the experiences in other countries and finds that political and policy information affect whether countries adopt changes in unemployment policy. Gilardi's approach to disentangling political and policy-based information centers on divergent predictions between right and left governments in power. We take an alternative approach and make divergent predictions about the effects of passed and rejected policies.

Our method departs from most previous studies of diffusion, which focus on only a single stage of the policy process—policy adoption. Our argument is that with only a single outcome variable one has difficulty distinguishing between political and policy

information, because both types of information are likely present after a policy is adopted. In doing so, we build on the idea of examining the entire policy process as suggested by Karch (2007). As pointed out by Karch there are advantages to considering a more comprehensive picture of the policy process.

> Identifying these correlates of policy adoption is a valuable enterprise, but it paints an incomplete portrait of the diffusion process. It says a great deal about the factors that influence the adoption decision, but it says little about the political processes through which officials become aware of policy innovations, gather information about them, and amend them. If the most influential forces vary across these stages of the policy-making process, studies that focus exclusively on the enactment may underestimate the impact of certain forces while overestimating the impact of others. (Karch 2007, 26)

We fully agree with these assertions and show in the next section how examining the policy proposal stage can provide us with an empirical mechanism to disentangle political and policy-based information.

Hypotheses about Political and Policy Information

Political information about a policy's popularity is important for both elected officials voting in U.S. state legislatures and policy entrepreneurs proposing a policy through direct democracy. For elected officials, a policy's popularity may affect reelection chances. For policy entrepreneurs, a policy's popularity is a requisite for getting the policy adopted. In both cases, proposers face uncertainty about how voters will respond to their proposal. Uncertainty regarding popular support for a policy can lead political entrepreneurs to look to other states for information. One potential source of information about the prospects for an initiative is the result of similar initiatives in similar states (Boehmke 2005). As stated by Boehmke (2005, 39), "If the characteristics of voters in other states are similar, then whether those states already have the policy might provide some clues as to how voters in the group's state might respond to the initiative."

In the context of TELs, anecdotal evidence exists that the electoral experiences of other states affect whether or not a TEL gets on the ballot in another state. This result is most evident in the infamous case of California's Proposition 13. Tax crusaders existed in every state prior to Proposition 13, but it was not until after that state's successful campaign that those crusaders gained political (and, consequently, financial) capital. As described by Kuttner (1980, 275), Proposition 13 "helped home-grown activists who were previously unknown get their propositions onto the ballot."

Martin (2009) argues that the passage of Proposition 13 provided information to other states about the level of popular support for tax limitations. For instance, he argues that Proposition 13 directly influenced the viability of the Headlee amendment in Michigan, which limited state revenues. Correspondence between Lewis K. Uhler, chairman of the National Tax Limitation Committee, and Michigan tax activist Richard

K. Headlee referenced by Martin (2009) shows that the Headlee amendment would not have gained support from Michigan conservatives without the evidence of popular support provided by the passage of Proposition 13 in California.

The political information from California was particularly potent and immediate for California's neighbor to the north, Oregon. An Oregon newspaper remarked less than three months after Proposition 13's passage, "An Oregon version of Proposition 13 was proposed last January and gathered dust until the California version passed. Within a month, petitioners had gained some 200,000 signatures, unprecedented in a state with only a 2.3 million population."[3] This spread of political information was an important factor in the spread of the tax revolt.

These anecdotes show how the electoral experiences of other states can reveal information about how states with similar electorates would respond to a proposal. This provides an incentive for policy proposers to learn from the experiences of other states where voters have considered TELs. This conclusion leads to two hypotheses:

> *Successful proposal hypothesis:* Greater similarity to states that have proposed and *passed* TELs will *increase* the probability that a state will propose a limit, all else equal.
>
> *Failed proposal hypothesis:* Greater similarity to states that have proposed and *rejected* TELs will *decrease* the probability that a state will propose a limit, all else equal.

As previously noted, separating the effect of policy-relevant and politically-relevant information is difficult. Both types of information are likely to diffuse and affect the actions of similar states. A positive and significant finding for our passage hypothesis is indicative of the flow of political information, but this result is conflated with the effect of policy-relevant information. Our primary empirical leverage on the different type of information comes from the ability to examine if *failed* TELs influence other states. In these cases, only political information diffuses because an unimplemented policy cannot possibly provide information about policy effectiveness.

By focusing on the differential effect of passed and failed TEL proposals we make a divergent prediction about similar states. This design responds to the critique of Volden, Ting, and Carpenter (2008) that the previous literature on diffusion failed to distinguish adequately between independent, myopic policy adoption and actual learning between states. These authors contend that states may adopt the same policies even in the absence of learning simply because they are responding to similar internal pressures.

To address this problem, Volden, Ting, and Carpenter (2008) suggest examining whether successful policies are more likely to diffuse. Using this method, one can possibly make divergent predictions about similar states; diffusion between similar states should occur only when policies are effective. Our analysis does something analogous to this suggestion by making divergent predictions about the effects of passed and rejected proposals. We predict that successful TEL proposals (those that pass) will make TELs in neighboring states more likely, while failed TEL proposals (those that do

not pass) will make TELs in neighboring states less likely. This divergent prediction suggests that similar states will not always have similar policy outcomes.

No information about policy effectiveness exists when voters reject a proposal. This type of information accrues only over time after a policy is implemented. However, political information (about voters' likely reaction to a proposed TEL) is still present when policies are rejected. In particular, if TEL rejections in other states are associated with a lower probability of a TEL proposal, then this result is consistent solely with the flow of political information. We describe our estimation strategy in the next section.

Overview of Data Issues and Measures

Measuring State Similarity

In section 2 we identified similarity as a factor in the spread of information between states. In particular, we are interested in a measure of similarity that provides information to policy entrepreneurs about the potential electoral fate of a proposed policy.[4] We utilize the workhorse variable in the policy diffusion literature, the proportion (or count) of one's geographic neighbors that have previously passed or rejected the policy innovation in question. This mechanism suggests that geographic proximity proxies for state similarity (Berry and Berry 1990; Gray 1994; Lutz 1986; Mooney and Lee 1995; Stream 1999; Walker 1969). Mooney (2001) characterizes the reliance on geography as "readily accepted." Geographic proximity serves as a useful heuristic for policy makers and citizens to decide how a policy might work in their own state. Furthermore, a good measure of state similarity takes account of the information possessed by the actual actors making decisions (voters and policy makers), and the ease of observing geographic proximity makes us relatively sure that political actors are aware of geography.

As noted by Mooney (2001, 105), "[P]olicymakers and citizens look to other states in a satisficing search for solutions to problems, and the states to which they look first are their neighbors, due to familiarity, ease of communication, cross-mixing of media and population, and common values." The geographic measure has been widely used, and geographic proximity can capture multiple pathways by which policies can spread.[5] An editorial in the *Seattle Times* discussing the merits of Washington's competing tax limit initiatives, Initiatives 601 and 602, captures the utility of this heuristic in its title: "Sign Here to Imitate Oregon's Tax Revolt."[6] Throughout the 1993 election, numerous newspaper articles compared Washington's proposal to Oregon's previously passed limitation, Measure 5.

In addition to the substantive reasons to utilize geographic proximity as a measure of similarity, two empirical reasons exist to utilize the geographic measure. First, geographic proximity does not change over time, thus making across-time comparisons easier for political actors. Second, unlike measurements of public mood or ideology, no ambiguity occurs about whether we have measured geographic proximity correctly. Measurement error in an independent variable is likely to attenuate the effect of that

variable (King, Keohane, and Verba 1994), which may make more difficult the finding of a consistent correlation between other measures of state similarity and TEL proposal.

Although we focus on geographic proximity and believe good substantive and empirical reasons exist to do so, other ways are available to measure state similarity (Grossback, Nicholson-Crotty, and Peterson 2004; Holzinger, Knill, and Sommerer 2008; Volden 2006). No single measure of similarity will be ideal for all settings because different theories about policy diffusion may require alternative measures, and in our setting we believe that geographic proximity is a reasonable measure of how political learning can spread between states.

We account for national trends in our analysis to isolate the effects of geographic channels of information. To do so, we construct a variable that counts the number of TEL passages and rejections nationally over time. As explained by Berry and Berry (1999, 227), this variable suggests that "officials from other states interact freely and mix thoroughly with officials from states that have not adopted it." Including this control variable removes variation resulting from national proposal patterns that are unrelated to any specific channel of similarity. Excluding this variable in any model could lead to the spurious finding that TELs followed an ideological or geographic pattern, when in fact there is simply a cyclical pattern to the number of TELs proposed.[7]

Data on TELs

We collected data on the proposal and passage of all TELs in the U.S. states from 1970 to 2006 that occurred via initiative, referendum, or constitutional amendment. In our data, initiative TELs appear on the ballot as a result of citizens gathering sufficient signatures to qualify for the ballot. In contrast, referenda and most constitutional amendment TELs appear on the ballot as a result of being referred to the voters by the state legislature.

Unlike legislative bills, TEL proposals and voting outcomes that occurred via direct democracy are systematically well documented over our times series. We define a TEL as a constitutional or statutory act that limits revenue or expenditures at the state level. Specifically, we include ballot measures that limit all revenues, all expenditures, or property taxes. We exclude gas and sales tax limits or any revenue limit that applies only to a certain segment of the population (such as to a school district). We do not include proposals that simply reduce taxes or propose supermajority limits for tax increases. We code each TEL as either a property tax limitation or a general fiscal limitation, the latter category being composed of spending and/or revenue limits.[8]

We gathered our data on TELs primarily from the Ballot Measures Database of the National Conference of State Legislatures (2008). This database contains all initiatives since 1902 and all referenda since 1998. To supplement this limited data availability of referenda, we rely on the work of Dye (1990), Alm and Skidmore (1999), and Mullins and Wallin (2004) as well as various state websites. In sum, we found a total of 61 proposed TELs, 26 of which passed. Because we end our analysis when a state adopts a TEL and exclude Alaska and Hawaii (since their geographic neighbors are

Figure 1. Map of tax and expenditure limit passages and rejections

undefined), there are 54 proposed TELs in our analysis, of which 24 passed. By combining these various sources we believe we have the most comprehensive list of proposed TELs currently in existence. A map of these data, displaying whether or not states have ever passed or rejected any type of TEL proposal, appears in Figure 1.

Modeling TEL Proposal

In Table 1 we present a summary of the variables we expect to affect the TEL proposal variable. We use prior literature to guide our choice of covariates related to internal determinants of proposal (Alm and Skidmore 1999; Lowery and Sigelman 1981). For one, we expect a high tax burden to be positively associated with TELs. We identify two types of tax burden: property tax burden and total tax burden. We calculate these variables by dividing state and local taxes and property taxes by total state personal income (U.S. Bureau of Economic Analysis 2008; U.S. Census Bureau, various

Table 1. Expected Relationship between Independent Variables and TEL Proposal Variable

Variable	Predicted effect	Data source
Citizen ideology	−	Berry et al. (1998)
Government ideology	+	Berry et al. (1998)
Percentage elderly population	+	U.S. Census, Population Estimates
Percentage school-age population	?	U.S. Census, Population Estimates
Total tax rate	+	U.S. Census, State and Local Government Finance
Property tax rate	+	U.S. Census, State and Local Government Finance
Major election year (gubernatorial or presidential)	+	U.S. Election Atlas
Personal income	+	Bureau of Economic Analysis, 2008, Annual Personal Income and Employment
TEL rejection by similar states	−	See description in text
TEL passage by similar states	+	See description in text
Number of initiatives per year	+	National Conference of State Legislatures, 2008, State Ballot Measure Database
Presence of the state initiative process	+	Initiative and Referendum Institute, State-by-State List of Initiative and Referendum Provisions
Number of national passages	+	NCSL (Alm and Skidmore 1999; Dye 1990; Mullins and Wallin 2004)
Number of national rejections	−	NCSL (Alm and Skidmore 1999; Dye 1990; Mullins and Wallin 2004)

Note: TEL = tax and expenditure limit; NCSL = National Conference of State Legislatures.

years). The rationale for a ratio measure is that taxpayers are more likely to be concerned with the proportion of their income spent on taxes than the overall level of taxes collected. In addition, using a ratio makes our measure more comparable across different states.

We expect government and citizen ideology to influence the occurrence of TELs. To measure popular ideology and institutional ideology, we rely on Berry et al.'s longitudinal index from 1970 to 2006 (for a description, see Berry et al. 1998).[9] We expect that popular liberalism is negatively associated with TELs while institutional liberalism is positively associated with TELs. This latter prediction is grounded in the idea that citizens may favor tax limits if they fear that their government has a preference for high taxing and spending policies.

Proposal of a TEL will also depend on internal political and institutional factors. We control for the presence of the initiative process (distinct from the ability of all states to participate in referenda and vote on constitutional amendments) using a binary

variable. We expect that the proposal of TELs is more likely in initiative states (Lupia et al. 2009). In addition, we use the number of initiatives or referenda on the ballot in a given year (minus the TEL proposal) as a proxy for ease of policy proposal and the predominance of direct democracy usage in some states. When more measures are on the ballot in a given year, we expect a TEL proposal to be more likely. We also include two dichotomous variables to account for whether a year is a presidential or gubernatorial election. Elections during these years are higher profile, and may have both greater and different turnout than in other years, which may affect TEL proposers' decisions.

Other state characteristics of interest are elderly population rate, school-age population rate, and personal income (U.S. Bureau of Economic Analysis 2008; U.S. Census Bureau 2008). We predict that a large proportion of elderly population should increase the likelihood of a TEL because this demographic group is positively associated with low-tax preferences. The expected effect of a greater proportion of school-age children is less clear. While some research associates tax limits with reductions on school spending (Downes and Figlio 1998), other studies at the individual unit of analysis show that parents with school-age children are more likely to support TELs (Stein, Hamm, and Freeman 1983). Finally, many standard political economy models posit a relationship between level of income and preferences over the size of government, so we account for gross levels of state income in predicting whether a TEL is proposed.

We turn now to the two variables about policy diffusion. We measure geographic diffusion using the proportion of a state's neighbors that have ever passed or rejected a TEL.[10] For example, if a state has four neighbors, two of which have passed TELs, the variable measuring neighbor passages would be coded as 0.5. If that state has no neighbors that have rejected TELs, the variable measuring neighbor rejections would be coded as zero. Geographic neighbors are defined by any two states with a nonzero, shared border. We expect that geographic adjacency to states that have rejected TELs will be correlated with a lower probability of a TEL proposal. In contrast, adjacency to states that have passed a TEL will be correlated with a greater probability of a TEL proposal. Table 2 contains the basic descriptive statistics for our data.

Data Analysis

We analyze the proposal of two types of TELs, general limits and property tax limits. Following Shipan and Volden (2006; 2008) we pool our observations across these two possible policy choices. Therefore, our unit of analysis is a state-year-policy. We employ a dummy indicator for these two policy types to account for differences in the baseline rates of proposal (Boehmke 2009). For each type of TEL we construct a dependent variable that takes the value of zero when there is no TEL proposal in that state-year and the value of one when there is a proposal in that state-year. States can propose multiple TELs of the same type, but the series for each policy ends when a state passes a policy of that type. The justification for this end point is that once a state successfully passes a policy, that state no longer needs to look to other states as a heuristic for what sort of electorate would pass that policy again in the future. Instead, it can simply look to its own history.[11]

Table 2. Descriptive Statistics: All U.S. States, 1970–2006

	N	M	SD	Min	Max
Citizen ideology	1,850	47.28	15.53	6.86	95.97
Government ideology	1,850	48.78	23.27	0	97.92
Percentage elderly population	1,825	0.12	0.02	0.06	0.18
Percentage school-age population	1,850	0.24	0.03	0.18	0.34
Total tax rate	1,850	0.10	0.01	0.07	0.19
Property tax rate	1,813	0.032	0.01	0.01	0.09
Personal income[a]	1,850	$150B	$182B	$6.8B	$1440B
Number of initiatives on ballot	1,850	1.79	4.25	0	45
Property limits					
Geographic neighbor rejections	1,776	0.16	0.22	0	1
Geographic neighbor passages	1,776	0.25	0.29	0	1
Count of nationwide passages	37	4.73	3.21	0	9
Count of nationwide rejections	37	7.11	3.38	0	12
Spending and revenue limits					
Geographic neighbor rejections	1,776	0.10	0.16	0	0.67
Geographic neighbor passages	1,776	0.14	0.23	0	1
Count of nationwide passages	37	9.14	6.04	0	16
Count of nationwide rejections	37	5.51	2.72	0	9

a. Converted to 2006 dollars.

In accordance with the standard methodology in the policy diffusion literature, we analyze the determinants of a TEL proposal through duration analysis. To estimate our regressions we take advantage of the fact that binary time-series, cross-sectional data are identical to duration data once we account for temporal dependence in the data (Andersen and Gill 1982; Beck, Katz, and Tucker 1998). Beck, Katz, and Tucker (1998, p. 1265) point out, "Annual BTSCS data are equivalent to grouped duration data with an observation interval of one year." Following Beck, Katz, and Tucker, we augment a standard logit model with a series of cubic splines and a year counter. This methodology has been previously suggested for the study of policy diffusion (Buckley and Westerland 2004) and allows us to remain agnostic on the functional form of duration dependence.[12]

We run our model on two different populations of states as a robustness check. First, we analyze the entire population of U.S. states, minus Alaska and Hawaii. It makes sense to include all states together because all states have the constitutional ability to pass legislation via referenda or constitutional amendment. Of the 65 TELs in our data, 19 were proposed via legislatures. That said, usage of direct democracy is far more common in the 24 states where the initiative process is available. Running our model on this second subset of cases ensures that our results are not just an artifact of rare proposals in certain states and frequent proposals in others.

Table 3. Determinants of TEL Proposal

|	All states		Only initiative states	
	Coeff.	SE	Coeff.	SE
Citizen ideology	−0.03	(0.02)†	−0.02	(0.02)
Government ideology	0.001	(0.01)	−0.011	(0.02)
Percentage elderly population	−11.34	(7.52)	−19.89	(10.95)†
Percentage school-age population	−40.37	(13.67)**	−52.39	(17.07)**
Total tax rate	12.18	(15.68)	10.87	(26.03)
Property tax rate	4.94	(17.54)	13.45	(31.33)
Personal income (1000s)	0.0002	(0.0002)	0.0002	(0.0003)
Initiative system	2.26	(0.56)**		
Number of initiatives per year	0.12	(0.02)**	0.14	(0.02)**
Legislative limit in place	−0.04	(0.50)	−0.52	(0.57)
Gubernatorial election year	0.88	(0.39)*	0.85	(0.54)
Presidential election year	1.20	(0.32)**	1.31	(0.45)**
TEL rejection by similar states	−5.07	(1.21)**	−5.81	(1.60)**
TEL passage by similar states	2.99	(1.12)**	4.26	(1.20)**
Number of national TEL passages	−0.29	(0.10)**	−0.33	(0.12)**
Number of national TEL rejections	−0.06	(0.04)	−0.02	(0.04)
Cubic spline 1	0.05	(0.08)	0.07	(0.08)
Cubic spline 2	−0.44	(0.43)	−0.70	(0.53)
Cubic spline 3	1.09	(1.00)	1.82	(1.25)
Year counter	0.07	(0.08)	0.04	(0.09)
TEL already proposed	0.62	(0.71)	0.32	(0.78)
Series dummy	−0.14	(0.36)	−0.27	(0.43)
Constant	−135.1	(150.6)	−69.36	(172.98)
Number of observations	3,013		1,220	

Note: TEL = tax and expenditure limit. Model estimates via logit. Robust standard errors clustered by state.
†Significant at the .10 level. *Significant at the .05 level. **Significant at the .01 level.

Results

We turn now to our results. We focus first on our full sample of observations where the dependent variable is the TEL proposal in 48 states from 1970 to 2006. This analysis appears in Table 3, column 1.[13]

We focus first on the variables we expect to influence state-to-state diffusion. Consistent with our expectations, states whose neighbors pass TELs are more likely to propose their own limit, whereas states whose neighbors reject TELs are less likely to propose their own limit. The negative and significant effect of neighboring states rejecting a TEL is particularly noteworthy since only political information is revealed by this event. The negative coefficient on national passage is initially somewhat surprising because it
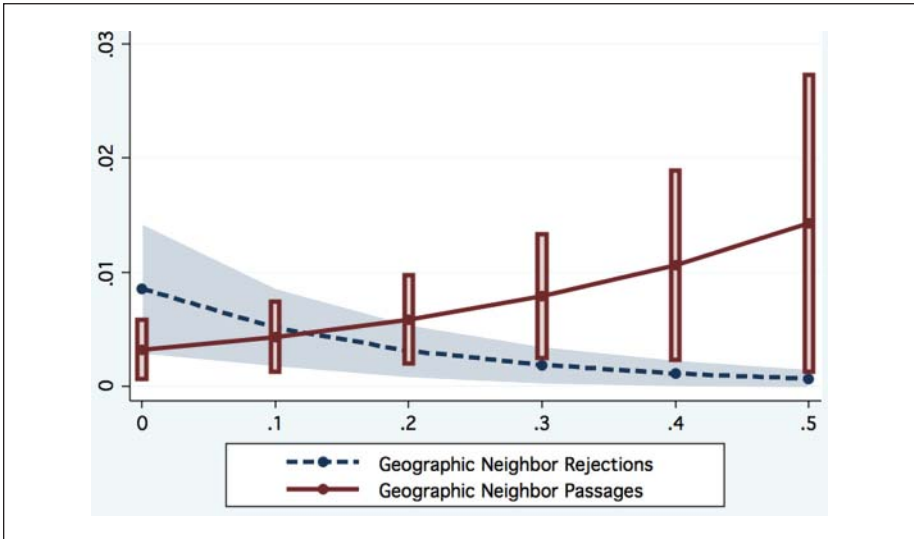
Figure 2. Marginal effect of changes in neighboring state rejections and passages on tax and expenditure limit proposals

suggests that as more states have TELs, other states (without TELs) become less likely to propose one. We interpret this variable as picking up a state's unmeasured propensity not to propose a TEL. At the end of the series (when the counter is highest), the states left in our sample are the ones that, for whatever reason, are stalwart nonproposers. Because our variables are not perfectly measuring why states propose, the counter picks up the difference between states that are resolutely not going to adopt TELs and many other states that may adopt them.

To provide a sense of the substantive impact of the different variables we generate predicted probabilities of TEL proposal for a variety of our independent variables (Long and Freese 2005). In Figure 2 we present a graphical interpretation. Focusing on the predicted effect of neighbor rejections we can see that an increase in the proportion of neighbors who have rejected a TEL leads to a decline in the probability of a state proposing one itself. Specifically, a change from 0 to 0.5 in this variable (representing a change from no neighbors to half of one's neighbors having previously rejected a TEL) reduces the probability of proposal from 0.0085 to 0.0007, a more than twelvefold decrease. In contrast, a change from 0 to 0.5 in the variable measuring neighbor passages of TELs increases the probability of proposal from 0.0032 to 0.0143, all else constant. The small absolute size of these probabilities is expected given that TEL proposal in any given year is relatively unlikely, but the size of the change in the relative probabilities suggests that state-to-state effects can be quite significant.

We now turn to the other variables in our models, the internal factors that affect TEL proposal. Both variables related to the initiative process, the presence of the initiative process and the number of initiatives that appear on the ballot in a given year, are

positive and strongly associated with TEL proposal. The results also show that TELs are far more likely to be proposed in presidential years and gubernatorial years. A change from a noninitiative state to an initiative state increases the probability of proposing a TEL by 0.002 to 0.018, holding all other variables at their means. Similarly, a change from having zero initiatives on the ballot to 10 initiatives on the ballot increases the probability of proposing a TEL by 0.004 to 0.014.

Most of the demographic determinants of TEL proposal are insignificant. Neither property tax burden nor total tax burden achieves statistical significance, though both are in the expected direction. Government ideology does not significantly determine TEL proposal, but results suggest a weak relationship between conservative popular ideologies and TEL proposal (10% level of confidence). The variables for the elderly population rate as well as personal income are both insignificant in our model. In contrast, the percentage of school-age children in the population has a significant and negative influence on the proposal of a limit. Finally, only one of the variables coding the number of TEL adoptions or rejections nationwide is significant, but surprisingly it is in the opposite direction as predicted. The results suggest that the number of passages nationwide is negatively associated with TEL proposal.[14]

We also restrict our analysis to states with the initiative process, which leads to only minor changes in the results. In this model (Table 3, column 2), the effect of a gubernatorial election year falls from significance, while the effect of a larger elderly population gains significance at the 10% level. Most importantly our primary variables of interest, the effect of neighbor states passing or rejecting TELs, remain statistically significant at the .01 level. Utilizing the previously employed approach to examine the magnitude of the effect we find the following. An increase from 0 to 0.5 in the proportion of neighbors that have rejected a TEL decreases the probability of a TEL from 0.03 to 0.001. On the other hand, an increase from 0.0 to 0.5 in the proportion of neighbors that have passed a TEL increases the probability of a TEL from 0.005 to 0.044. Although small on an absolute level, the predicted effect of TEL proposal varies quite significantly based on whether or not neighboring states adopt or reject their TEL proposals. Indeed, the predicted probabilities generated from this model suggest that the spread of political information is an even stronger determinant of diffusion in this subset of cases.

The results in this section are consistent with our hypotheses about the effects of political information on the proposal of TELs. We identified political information by analyzing proposals that were rejected, as this finding is the only instance where policy-specific information is not conflated with political information. We turn now to several secondary hypotheses that strengthen our argument about the flow of political information between U.S. states.

Robustness

In this section, we present a variety of subsidiary results about the diffusion of political information between states. First, we leverage variation that exists in the strength of the convictions of proposers. Assuming some TEL proposers care more about the passage of their proposal than others, those with stronger convictions should be more

attuned to political information from other states. We investigate this hypothesis by separating proposals that come from state legislatures (referenda or constitutional amendments) from those proposed by political entrepreneurs (initiatives). Second, we analyze whether a lack of proposal in a neighboring state influences the likelihood of TEL proposal. All of these secondary hypotheses support our conclusion that there is a diffusion of political information between states.

To test whether the strength of political convictions affects the employment of political information from neighboring states, we run two models that separately predict the proposal of a referendum or an initiative. We believe there are several reasons why policy entrepreneurs proposing initiatives would have stronger convictions about passage than a legislature proposing a referendum. First, a policy entrepreneur arguably has more to gain from initiative passage. By the very nature of his or her time investment, it is clear that the proposer has strong convictions about the policy. Furthermore, Smith (1998) shows that tax crusaders gain personally from a successful campaign, becoming a power broker in state capitals upon their success. In contrast, anecdotal evidence suggests that legislatures have frequently proposed TELs only to prevent a competing, and often more stringent, initiative proposal from successfully getting on the ballot. In this case, legislators may not want or even care if the referendum passes.

Furthermore, initiatives proposers have more to lose from a failed proposal. Initiative campaigns are very costly to wage. In California, paid circulators alone cost $2 to $3 million per initiative (Garrett 1999, 1851–53). Recent initiative campaigns spent upward of $154 million on a single initiative (Matsusaka 2007). The cost for an initiative campaign will vary across states and over time, but some positive cost is always associated with proposing an initiative. In comparison, legislatures do not need to collect signatures and do not need to raise funds to put a referendum or constitutional amendment on the ballot. This financial cost is an additional reason why policy entrepreneurs using the initiative process would want to maximize the probability of passage.

If and only if proposers want their policy to pass do we expect a proposer to seek out and utilize political information from others states. We believe that this assumption is better met for proposers of an initiative, as opposed to a TEL proposal by the legislature via a referendum. As such, the effect of political information from other states should have a reduced influence when TELs are proposed via the initiative.

Our analysis of this secondary hypothesis appears in Table 4. The results confirm our expectation that political information from neighboring states influences only initiative proposals, not referendum proposals. Neither of the variables that measure the influence of geographic neighbors significantly predicts proposal of a referendum, while both significantly affect the proposal of an initiative. These results suggest that neighboring states' actions influence the decision by citizens to gather signatures and place a TEL on the ballot. Given the significant costs associated with collecting signatures and running an initiative campaign, not unsurprisingly these political entrepreneurs are strongly attuned to political information. In contrast, if legislatures are less concerned with the TEL proposal actually passing, then they may be less influenced by actions in other states, which is consistent with our findings.

Table 4. Robustness Checks for TEL Proposals

	Initiative DV		Referendum DV	
	Coeff.	SE	Coeff.	SE
Citizen ideology	−0.03	(0.03)	−0.03	(0.02)
Government ideology	0.01	(0.01)	−0.03	(0.02)
Percentage elderly population	−29.29	(9.72)**	24.91	(12.22)
Percentage school-age population	−42.19	(22.21)†	−20.63	(24.27)
Total tax rate	17.32	(24.75)	6.96	(31.99)
Property tax rate	1.02	(32.98)	−1.31	(27.25)
Personal income (1000s)	0.0004	(0.0003)	−0.0001	(0.0004)
Initiative system	2.99	(0.86)**	1.23	(0.68)†
Number of initiatives per year	0.14	(0.02)**	0.09	(0.04)†
Legislative limit in place	0.13	(0.69)	−0.18	(0.83)
Gubernatorial election year	1.00	(0.56)	0.61	(0.54)
Presidential election year	1.57	(0.42)**	0.22	(0.60)
TEL rejection by similar states	−6.43	(1.88)**	−3.51	(2.81)
TEL passage by similar states	2.92	(1.36)*	3.34	(2.14)
Number of national passages	−0.21	(0.12)†	−0.57	(0.26)*
Number of national rejections	−0.02	(0.05)	−0.16	(0.08)*
Cubic spline 1	0.10	(0.09)	−0.14	(0.13)
Cubic spline 2	−0.79	(0.57)	0.76	(0.69)
Cubic spline 3	1.80	(1.35)	−1.55	(1.52)
Year counter	0.04	(0.10)	0.26	(0.16)
TEL already proposed	0.39	(0.87)	−0.03	(1.35)
Series dummy	−0.23	(0.34)	0.02	(0.97)
Constant	−72.4	(189.6)	−508.9	(313.9)
Number of observations	3,013		3,013	

Note: TEL = tax and expenditure limit. DV = Dependent Variable. Model estimates via logit. Robust standard errors clustered by state.
†Significant at the .10 level. *Significant at the .05 level. **Significant at the .01 level.

We also examine whether the lack of a proposal in a neighboring state affects a state's likelihood of proposal. We construct a new variable, analogous to the previously utilized variables, that measures the percentage of a state's geographic neighbors that have never proposed a TEL. Since the lack of proposal does not provide any information about how potential, similar voters would respond to policy, we predict that a neighbor's lack of proposal should have no influence on another state's decision to propose or not, all else equal. The results of this test are available in our online appendix. As predicted, a lack of neighbor proposal has no effect on other states' decisions to propose. This null finding provides a test of divergent validity that supports our conclusions.

Conclusion

One externality of U.S. states' policy experiments is the flow of information. Theories of policy diffusion build on the idea that information about similar states' experiences with a policy undergirds the spread of policy from one state to another. However, scholars have posited different explanations for the purpose of information. The experience of other states can provide information about either policy effectiveness or the likely political reactions of voters. We demonstrate that we can disentangle policy and political information by analyzing the effect of information on policy proposals. Specifically, proposals will be more likely when a similar state passes the policy and less likely when a similar state rejects the policy. The effect of rejected policies on diffusion provides empirical leverage over political information because a rejected policy cannot be informative about policy effectiveness, and therefore contains only information about politics.

We examined the effect of political information on policy diffusion by looking at the proposal of TELs since 1970. The results confirmed that U.S. states are more likely to propose TELs when their geographic neighbors have successfully passed them and less likely to propose TELs when their neighbors have rejected such measures. The negative effect of geographic neighbor rejection is particularly indicative of the flow of political information because rejections reveal no information about policy effectiveness. To date, there have been few attempts to demonstrate the effect of policy versus political information, and we demonstrate a clear influence of politics, independent of policy, on the spread of new policy ideas.

The role of political information in the spread of policy proposals is an important contribution to the larger literature on policy diffusion. This flow of information is particularly relevant in the initiative process where the actors who propose policy are different from the actors who pass policy, but political information also likely diffuses when states make policy through their legislatures. Political information is also relevant to legislators, who are constantly attuned to how their political actions will affect their constituencies' opinions. We believe that exploration of political information diffusion in the legislative realm is a fruitful avenue for future research.

An important methodological note is that if a similar pattern to what we found with TELs occurs in other areas, then the pattern suggests that diffusion may occur via the policy proposal stage rather than through passage. If we fail to account for the strategic nature of policy proposals and simply look at policy passage, then we may mistakenly identify the determinants of policy passage. More research is needed to identify whether existing findings about passage in the diffusion literature are in fact about passage, or if they are actually evidence for strategic policy proposals. This additional analysis requires data about the presence of both policy proposal and passage, which would be potentially difficult, but without more research we cannot be sure that our existing analyses capture passage and not proposals.

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Notes

1. Mintrom (1997) and Mintrom and Vergari (1998) similarly analyze policy proposals.
2. Other explanations for diffusion exist such as interstate competition and emulation (Berry and Baybeck 2005; Berry and Berry 2007; Boehmke and Witmer 2004; Simmons, Dobbin, and Garrett 2006). We focus exclusively on the role of information but concede that other factors may influence a state's decision to adopt a policy.
3. "Taxpayers Revolt becoming a National Phenomenon," *Register-Guard*, August 28, 1978.
4. Even with all of the information available to policy entrepreneurs, they are not clairvoyant— for example, only about one-half of the proposed tax and expenditure limits (TELs) in our data set actually pass. Therefore, policy entrepreneurs may be attuned to information that will help them learn about the costs and benefits of proposing a policy to the public.
5. We have also considered the effect of ideological similarity. Similar to Grossback, Nicholson-Crotty, and Peterson (2004), we used a spatial lag that relates state i's citizen ideology in year t (from Berry et al. 1998 using the updated version of the data) to the ideologies at the time of TEL passage for all states that passed TELs previously. This measure of similarity met with largely null results, perhaps a consequence of measurement error or errors by policy entrepreneurs forced to make longitudinal comparisons between states.
6. "Government by Initiative—Sign Here to Imitate Oregon's Tax Revolt," *Seattle Times*, April 8, 1993, A10.
7. Inclusion of these variables has no substantive effect on our variables of interest. Their omission does not change the size or significance of the variables measuring the diffusion of information between neighboring states.
8. This modeling choice has no substantive effects on our conclusions. The results are robust to pooling spending, revenue, and property limits or creating a single indicator variable for the presence of any type of TEL.
9. Considerable debate occurs about the exact concept captured in Berry et al.'s (1998) measure. The measure may not capture ideology but does seem to correlate with many factors related to public mood, which is relevant for our needs (see Meinke, Staton, and Wuhs 2006 for an argument about the measure's validity).
10. We also use a simple count of the number of neighbor states that have passed a TEL, producing no difference in our results.
11. The effect of this modeling choice has no effect on our results. When states are allowed to pass multiple TELs of the same type, the coefficients on geographic neighbors' passages and rejections remain significant and in the correct direction.
12. We have also modeled our data using ReLogit to correct for the relative scarcity of positive observations in the data (King and Zeng 2001). The use of ReLogit makes no significant difference for our results.
13. The results presented herein are robust to a number of different specifications. Full results are available in our online appendix, available at http://spa.sagepub.com/.

14. As discussed earlier, the standard approach in diffusion studies examines only whether a state passed a TEL in a given year. For the sake of comparison we used the model in Table 2 to estimate the determinants of TEL passage as in a standard diffusion analysis—coding states where a TEL passes with a one and lumping all other states together (proposal or not) as zeros in the analysis. We omit the full results here, but essentially we find the same significant factors as in Table 2 about TEL proposal. Of particular interest is that *rejected* TELs in neighboring states decrease the probability of TEL passage. This finding is consistent with our argument about the strategic nature of TEL proposals. If policy entrepreneurs do not propose them in states where passage is unlikely, then these will be states where TELs will be more likely to be zeros in a passage analysis. This analysis therefore will be unable to differentiate between a smaller probability of proposal and a proposal and reduced probability of passage.

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