PRIMARY ELECTION SYSTEMS AND CANDIDATE DEVIATION

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INTRODUCTION

In March of 1996, voters in California overwhelmingly passed the Open Primary Act of 1996 by direct voter initiative, replacing a closed primary system with a blanket primary system, thus adopting a primary system that was very similar to the one that has been in existence in the state of Washington since 1935 (State of Washington, Office of the Secretary of State). Much of the support for the Act came from voters who argued that a closed primary system produces a slate of extremist candidates in the general election, thereby effectively disenfranchising centrist voters. In June 2000, however, the U.S. Supreme Court overturned this referendum following legal challenges from the California Republican and Democratic parties (along with the state Libertarian and Peace and Freedom parties). These parties argued that allowing nonparty members to choose their party’s nominees violated their rights to political association. Since this ruling, the states of Alaska and Washington have begun to reform their primary election process to conform to the Supreme Court ruling. This episode raises interesting theoretical questions about the relationship between rent-maximizing politicians, voters, and the electoral institutions under which they act.

A significant set of the public-choice literature considers the relationship between primary types and the resulting ideology of the winning candidate in primary and general elections. Research by Buel and Jackson [1991], for instance, suggests that primary voters with ideologically extreme views are more likely to participate in political activities than other voters. Gerber and Morton [1998] argue that the relevant median voter in closed primaries is more extreme than the median voter in general elections and that this difference is less pronounced in states with open or blanket primaries. In this paper, we build upon Gerber and Morton [1998] by adding...
a new measure of deviation from the median voter that explains why politicians may prefer one primary type to another. We suggest that institutional arrangements such as primary types, in addition to logrolling and signaling, may account for candidate deviation from the median voter. In the process, we re-evaluate this principal-agent relationship with a focus on the role of agent deviation under different primary types.

PRIMARY SYSTEMS AND THE MEDIAN VOTER MODEL

The primary voting system in the United States can be divided into three types: blanket, closed, and open. The blanket primary allows all registered voters to vote for any declared candidate, without regard to party affiliation. The closed system requires voters to choose among candidates running for nomination under the party affiliation in which the voters are registered. Under the closed system, for instance, a registered Republican is allowed to vote only for candidates running for the Republican nomination to state and federal offices. Votes cast for the party's nominee before voting in the primary. Under the blanket system, this voter can vote for any candidate regardless of their political party. Finally, open primaries are a hybrid of the two approaches. In this scheme, voters must declare which party's candidates for whom they want to vote. The registered Republican can vote for the Democratic candidates in the primary; opting for the Democratic slate, however, means that she forges the opportunity to vote for the Republican candidates.

The structure of the primary system presents an empirical opportunity to study the median voter model. One obvious motive for implementing blanket primary systems is the ability to grant voters a wider array of choices in primary elections and to facilitate voter participation. Public Choice theory with regard to the median voter, however, also suggests that the higher the voter participation, the less ideologically extreme the median voter. This suggests that the median voter in blanket primary elections would be more moderate than the median voter that exists in closed primary elections because a broader spectrum of voters participate in such a system. This means that the median position, which was targeted by politicians (according to the assumptions of the median voter model), would be closer to the actual median voter for the overall constituency. Assuming that representatives elected from blanket primary systems reflect the position of the primary median voter, does their ideology reflect the median voter of their constitutions? In other words, are the successful blanket primary candidates more moderate than those candidates emerging from primaries that restrict the array of choices available to primary voters?

Downs (1957) first formally discussed the median voter model in a theoretical context in his seminal book, *An Economic Theory of Democracy*. The model has applications for both the supply side (to explain which politicians support, for example) and a demand side (to explain which politicians win elections). It assumes that the distribution of ideologies is single peaked (or unimodal). If politicians act to maximize votes, the politician who represents the constituency will supply policies that satisfy the median voter. It is also assumed that the politician will have enough policy choices to include the choice of the median voter. Otherwise, agenda selection is assumed (cf. Holcombe, 1983, 29-41).

The model can be applied similarly to the demand side when voters demand representatives who then supply government policies. Using the same assumptions, the candidate whose positions most closely resemble the position of the median voter will receive the most votes. With the assumption of an ideological, unimodal, and normal distribution of votes, both candidates present moderate platforms that correlate with the median voter in an effort to win the votes that are closest to the middle. The candidates ignore the extreme voters on each side of the spectrum. Like Hotelling’s (1929) description of the placement of grocers in location theory, the candidates strive to place themselves in the middle position so that most voters will be indifferent to them. Under this schema, candidates can afford to ignore the wishes of the “extreme” voters who are located in the tail ends of the ideological distribution. If single-peak preferences hold, extreme voters can be ignored because they do not represent very many votes. As Downs notes, “there are so few voters to be lost at the margins compared to the number gained in the middle” (1957, 118).

The supply and demand relationship between voter demanders and legislator suppliers has been well-established in the public choice literature (Stigler, 1972, 1974; Gutman, 1978; and Lott, 1987). We believe, however, that the shortcomings of such analyses is that deviation is not obvious in a graphical sense. The comparative midpoints model, developed by Grofman et al. (2000) and Brumell et al. (2001) to examine split ticket voting at an aggregate level in general elections, can be adapted to examine different primary elections. We think that the comparative midpoints model can be utilized to understand deviation by legislators.

According to this model, constituencies differ in their distributions of voter ideology. Figure 1 identifies the ideological spectrum for a congressional district and party. We argue, similarly to Grofman et al. (2000), that politicians of opposite parties will want to locate close to the median, but will offer different positions. This implies that the liberal candidate will always be to the left of the conservative candidate. For simplicity, we adapt the model to represent districts with two general ideological types: liberal (1) and conservative (2). Therefore, the median voter in any given district may be to the left or right of the median voter. It follows that members of the same political party running for election in different districts may face different constituents and not have identical platforms.

Assuming a primary system dominated by two political parties representing opposite ends of the ideological spectrum, we can represent the party participants and district constituents on the same distribution. Despite the ideological characteristics of the district a distribution of voters exists who are relatively more liberal or
conservative than the median voter of the district. Therefore, in a closed primary the distribution of all voters in the congressional district is more likely to be bimodal. This implies that in a closed primary system, the relevant constituency for political candidates depends on the ideology of their political party. The candidate vying for the nomination of the "conservative" party, for instance, will support the position of the median voter of his party, \( m_c \). A candidate will want to position himself at \( m_m \) to win the primary appealing to the median voter within the conservative portion of the distribution. Likewise, the candidate vying for the nomination of the "liberal" party will face a different median voter, and position himself at \( m_l \) to win this primary. Therefore, successful politicians emerging from such systems are likely to be more ideologically liberal or conservative than the median voter of the district. Candidates in a closed primary system are more likely to deviate from \( m \). Candidates who run for office under a blanket primary system would have to appeal to \( M \), the median voter of the district. The open primary system will also provide the incentive to behave moderately. Candidates may locate at positions such as \( R \) or \( D \) closer to \( M \) to attract the potential crossover voter.

It follows that a legislator from a liberal (conservative) district is considered to deviate if she maintains a voting record that is not consistent with the district median voter. Deviation can occur in either direction of the ideological spectrum. A legislator is also considered to deviate if she maintains a voting record that is more liberal, \( m_l \) (conservative, \( m_c \)) than the median voter of her constituency. Assuming that party activists are more motivated by ideology than the voting public at large, as suggested by Johnson (1991, 1992), this analysis provides one reason why the political parties oppose blanket primary laws and why such laws were contested in California. The self-interested candidate has the incentive to minimize election costs and therefore benefits from the ability to change the relevant median voter in the primary by influencing the terms of the primary. By dealing with a smaller electorate comprised primarily of party activists, candidates can save campaign funds for use during the general election.

THE MODEL

We propose a model to test whether observed ideologies of members of the U.S. House of Representatives can be explained by the primary system under which candidates are elected. Our dependent variable measures the degree to which members deviate from the median voter of his or her constituency, and we use it to test for an empirical relationship between the degree of deviation and the type of primary.

Ideology in the public-choice literature has been measured by the utilization of presidential election dummies (to gauge constituency ideology), as well as ideological ratings of legislators compiled by special interest groups (to gauge representative ideology). Deviations between legislator and constituent ideology suggest the existence of shirking, and much of the public-choice literature is devoted to determining whether such shirking exists.

In this paper, we measure the degree of deviation from the median position of the relevant constituency utilizing data pertaining to the incumbent members of the House of Representatives of the 104\(^{th}\) Congress. Our study focuses on the 1996 election because the California blanket primary law was passed that year. We think that studying the data pertaining to years that California's blanket primary was in force would not aid our analysis. According to Cho and Gaines, voters are "slow to react to new strategic opportunities. Changes in political behavior may yet manifest themselves, but people require time and practice to understand a new electoral system" (2002, 171). Therefore, we argue that a cross-sectional study is more appropriate for this analysis since primary election laws prior to this point have been relatively stable. The model is specified as

\[ \text{Deviation} = f(x,y), \]

where \( \text{Deviation} \) is a measure of divergence from the median voter. The vector \( x \) represents the effect of the type of primary on deviation, and the vector \( y \) represents endorsements of electoral security enjoyed by the legislator. We contend, therefore, that the existence of deviation—and not simply the resulting ideology of the winning candidate—is explained by the type of primary from which the legislator emerges and by security in office.

The model we propose uses a logit regression technique to estimate the following equation:

\[
\begin{align*}
EX50 & = b_1 + b_2 \text{BLANKET} + b_3 \text{OPEN} + b_4 \text{WIN96} \\
& + b_5 \text{RPAC} + b_6 \text{RETURN} + b_7 \text{YEARS} + e
\end{align*}
\]

Variable descriptions and descriptive statistics are provided in detail in Table 1. The dependent variable, \( EX50 \), is a dummy variable indicating the likelihood of legislators'.deviation from the median voter of his constituency. It is coded based on error terms resulting from regression standard measures of legislator ideology on a series of constituency characteristics. Kau and Rubin (1979) developed this technique to indicate ideology as a voting factor. They found that measures used by Americans for Democratic Action (ADA) and the American Conservative Union (ACU) interest groups are highly correlated. Thus, they conclude that it does not matter if one uses ADA or ACU scores. Our measure of ideology is derived by using a combination of the ratings assigned by ADA and ACU for 1996. In an attempt to minimize bias associated with these scores, we use the ACU measure if the candidate is a Republican and the ADA measure if the candidate is a Democrat. This potential for bias is discussed by Brunell et al. (1999). The ADA and ACU scores are regressed on demographic characteristics of congressional districts of the 104th Congress. These demographic characteristics are: the percentage of constituents that is African-American, married, married with children, college-educated. We also include the median income of the district, the per capita income of the district, and the sum of federal, state, and local employees.

We attempt to proxy the characteristics of the median voter using these constituency variables. \( EX50 \) is based on the resulting error terms of this regression. Large errors, in absolute terms, suggest higher degrees of deviation, while low errors suggest little deviation. We pose the issue of deviation as one of likelihood,
given that larger errors indicate an increased likelihood of deviation. Therefore, a 1 is assigned to members in the upper 60 percent of the absolute value of the error term; and a 0 is assigned to members in the lower 40 percent. We hypothesize that a legislator assigned a 1 is more likely to vote in a way that deviates from the district median voter.

This variable is then regressed on variables comprising the x and y vectors. The vector x is composed of two dummy variables, BLANKET and OPEN.** BLANKET represents incumbent members of the House of Representatives running for reelection under a blanket primary in 1996, and OPEN represents members that were elected under an open primary in 1996. Representatives were assigned a 1 if they emerged from such a state, and a 0 if otherwise. States employing each primary are listed in Table 2. A negative relationship for both variables is anticipated since each system allows for wider voter participation and therefore less deviation from the median voter.

Variables comprising the vector y measure the degree of electoral security. These include the incumbent’s winning percentage in the 1996 elections, WINS66; the ratio of political action committee contributions to total spending, RPAC66; voter turnout in the legislator’s district in 1996 measured as the ratio of votes cast to the voting age population in each congressional district, RTURN66; and the number of years in office, YEARS66. The expected coefficient sign for each of these variables except for RTURN66 is ambiguous. Both a high winning percentage and years in office suggest degrees of electoral security (making deviation possible) but also could reflect a voting pattern that is consistent with the median voter. Research by Grier and Munger (1990) and Weingast and Marshall (1988) suggests that political action committees (PACs) reward deviation, but other research, notably Strautmann (1992), argues that representatives who deviate from the position of the median voter have higher supply prices that cause them to lose the financial support of cost-minimizing PACs. Moreover, Becker (1985) argued that PACs will “fire or repudiate” legislators if they fail to serve the PACs’ interests. The expected relationship between RTURN66 and EX56 is negative; the larger the turnout, the higher the cost incurred by representatives for ignoring the position of the relevant median voter.

RESULTS

The empirical results are reported in Table 3. The negative coefficients for the BLANKET and OPEN primaries are consistent with the median voter model’s implication that broad elections produce more centrist candidates. Furthermore, it follows that the coefficient term for BLANKET is larger and more significant than the coefficient term for OPEN. Since states that hold blanket primaries allow voters to split their tickets between Democrats and Republicans, the representative is chosen by a broader ideological spectrum of voters. This is also true, to a lesser degree, for states that have open primaries, in which voters must choose the party slate from which they wish to vote. Although the coefficient for OPEN is not significant, its sign and smaller size relative to the parameter estimate for BLANKET is consistent with our hypothesis.
Table 3
Logit Regression Results for Equation 1

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<tr>
<th>Variable Name</th>
<th>Coefficient</th>
<th>Marginal Effects</th>
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<tbody>
<tr>
<td>Constant</td>
<td>17.6065</td>
<td>2.0820</td>
</tr>
<tr>
<td>BLANKET</td>
<td>0.4699</td>
<td>-0.1688</td>
</tr>
<tr>
<td>OPEN</td>
<td>0.7582</td>
<td>-0.5286</td>
</tr>
<tr>
<td>WINST</td>
<td>0.5883</td>
<td>-0.5156</td>
</tr>
<tr>
<td>RPAC</td>
<td>0.4584</td>
<td>-0.6002</td>
</tr>
<tr>
<td>RETURN</td>
<td>0.1014</td>
<td>-0.1152</td>
</tr>
<tr>
<td>YEARS</td>
<td>0.5208</td>
<td>0.0725</td>
</tr>
<tr>
<td>Sample size</td>
<td>350</td>
<td></td>
</tr>
<tr>
<td>Log-likelihood</td>
<td>-221.83</td>
<td></td>
</tr>
<tr>
<td>LR</td>
<td>-20.7456</td>
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Absolute values of t-statistics are in parentheses.
a. Denotes significance at the 5 percent level.
b. Denotes significance at the 10 percent level.

Of the variables comprising the vector \( y \), all coefficients are significant except for \( RRETURN \). The negative sign for \( \text{WINST} \) implies that voters penalize ideological stances that deviate from the position of the median voter in their district. This is exactly the median voter model implies. This result implies that candidates with larger winning percentages have more freedom to deviate from the relevant median position. The negative coefficient estimate for \( \text{RPAC} \) supports the conclusions of Strautmann (1992). It suggests that those legislators with ideological stances closest to the median voter in their districts are more likely to receive PAC contributions. Cost-minimizing PACs will focus donations on those legislators with the lowest supply price, and legislators who already hold the position of their median voter will be in a better position to trade votes for donations on those issues in which the relevant median voter holds no position. The positive coefficient for \( \text{YEARS} \) has a level of significance of just over 5 percent. This result may reflect electoral endowments that accrue with seniority. While it contradicts the conclusion of the median voter model, the small coefficient suggests that the ability of senior legislators to deviate from the positions of their median voters is limited. Finally, the negative coefficient for \( \text{RETURN} \) corresponds with the conclusions of the median voter model. The larger the turnout, the closer the ideological distribution of voters is to the district median voter, therefore increasing the costs to the candidate for deviation.

CONCLUSIONS

The purpose of this paper is to analyze the effect of primary voting systems on the ability of agent-representatives to deviate within the median voter model. While our conclusions are consistent with the results found in Gerber and Morton (1998), our paper extends their analysis by including the role played by electoral security and the extent incentives that accompany it. We believe that the results presented herein make two important contributions to the literature: First, while we have been consistent with the literature in maintaining that deviation is driven by ideology, our results reflect that institutional arrangements also allow for deviation (and not simply factors such as laggardoing or signaling). Second, our measurement combining ADA and ACU scores reduces the potential of liberal bias (by the ADA) or conservative bias (by the ACU) by combining these scores into the determination of our dependent variable. Our results suggest that more open primaries produce candidates with positions that are closer to those of the median voter. If blanket primaries encourage broader electoral participation by voters, the resulting median voter in such primaries will more closely resemble the median voter in the entire constituency.

Our results do not imply that the conclusions of the median voter model do not apply when primaries are closed. Rather, they suggest that closed primaries reduce the array of choices available to voters. Since the party elite is more likely to participate in primary elections, candidates face a relatively more extreme median voter, that is, they face the median voter of the party. This creates an incentive for agent-representatives running for electoral office to favor closed primaries because it allows candidates to minimize campaign expenditures and to conserve resources for use during the general election.

The results suggest that the extent to which legislatures are ideologically divided depends on the primary system from which the candidates that comprise them emerge. Although this question is beyond the scope of this paper, it represents an extension to the results presented herein. Just as ideologically extreme candidates are less successful in presidential elections in which all voters are allowed to vote for a particular candidate, so these candidates are less likely to be successful in blanket primary systems. If the U.S. Congress seems more ideologically driven than does the U.S. president, one explanation of this outcome is the different relevant median voter that each successful member of Congress has to please, a conclusion consistent with the comparative midpoint model. Certainly, the median voter resulting from a closed primary in, for example, South Carolina or Massachusetts, differs from the median voter resulting from a national presidential election.

Finally, the results also suggest a reason that political parties, as well as other interested groups, might oppose blanket primary legislation and why, indeed, the political parties in California were successful in bringing their case to the U.S. Supreme Court. When two parties representing opposite sides of the political spectrum face blanket primaries, each faces an identical relevant median voter. As a result, the successful candidate representing each party will have been most successful in communicating the same median voters’ views. Since the more active members of any political party are likely to possess ideological positions far to the right or the left of
the median voter, they would be expected to oppose such legislation. On the other hand, if the active members do not dominate the primary, and if the resulting ideological distribution of voters in the constituency is unimodal, the successful candidates from both parties will hold similar ideological positions—a result that concurs with Governor George Wallace’s aphorism, that there is not a “dime’s worth of difference between liberals and conservatives” [cf. Bennett and DiLeo 1982, 1160].

NOTES

An earlier version of this paper was presented at the Annual Meeting of the Public Choice Society, San Antonio, Texas, 2001. The authors would like to thank Roy Perez, Richard Jankowski, Lawrence W. Eriey, Edward J. Lopez, Barry C. Burden, Thomas L. Brunell, and an anonymous referee for helpful comments. All errors are the responsibility of the authors.

1. Throughout this article web addresses are given in the reference list at the end of the article under the name of the web site.

2. The “nonpartisan” primary in Louisiana represents a special case of the blanket primary in which the party affiliation of the voter is also irrelevant.

3. Gerber and Morton (1998) disaggregate the primary system to include semi-closed and nonpartisan. Semi-closed primaries are closed primaries that allow voters to declare the required party affiliation on the day of the election. Nonpartisan primaries allow voters to choose among candidates without regard to the party membership of the candidate or the voter. In this paper, we follow the approach of Grofman and Brunell (2001) in not making the distinction between closed and semi-closed primaries because both systems still require the voter to declare party affiliation. This distinction is more important when dealing with strategic vs. sincere voting issues. Like Grofman and Brunell (2001), Grofman et al. (2000), and Gerber and Morton (1998), we assume sincere voting in primaries.

4. California’s voter participation increased after passing the blanket primary law in 1992. Thomas Gede, a California attorney, noted in USA Today [24 April 2000] “The blanket primary has resulted in greater participation among the state’s 16 million registered voters, and has allowed 1.6 million independent voters to participate in the primary process.”

5. The term “moderate” implies the median of the ideological spectrum of a given congressional district, i.e., the moderate position for a congressional district in North Carolina would be different than for a congressional district in Ohio.

6. The larger case letters represent positions of party participants within the relevant district, and the smaller letters represent the positions of voters on the district level.

7. The blanket primary in Washington State has been challenged several times since 1935, both in the courts and in the state legislature. However, none of these court challenges progressed to the U.S. Supreme Court (Gt. State of Washington, Office of the Secretary of State).

8. Much of the Public Choice literature is devoted to determining whether shirking actually occurs in the context of a voter-representative (principal-agent) model. While the determination of shirking is not the central focus of this paper, a full discussion of this debate can be found in Bendor and Lott (1996) and Lopes (1997).

9. Earlier econometric tests suggest that legs of independent variables provide a better functional form. Thus, the interpretation of the coefficients is the likelihood of the percentage change in the dependent variable rather than absolute value. In addition, we found that the logit estimation is the better functional form and more robust than a simple OLS estimation.

10. Documents obtained from both the ACU and the ADA indicate that the determinations of ratings are remarkably similar. The ratings are based on 20 specific votes out in 1989 that are considered to best reflect ideological distinction. Both organizations compile a score between 0 and 1 based on how legislators voted—e.g., a high ACU score would suggest an ideologically conservative legislator, and a high ADA score would suggest an ideologically liberal legislator. For more information, see Americans for Democratic Action and American Conservative Union. The use of ADA and ACU measures are preferred over other measures of ideology found in the literature, such as Peace and Roseman’s (1980) NOMINATE scores, because of their focus on left-right issues. This is especially applicable when used to construct a measure of deviation from a relevant median. (Cf. Gerber and

9 PRIMARY ELECTION SYSTEMS AND CANDIDATE DEVICATION Morton (1998), page 318, footnote 19: Our ADA-ACU combination approach allows for a broader array of legislative outputs to be considered in the formulation of the dependent variable and may correct for potential bias resulting from using only the ADA or the ACU measure to construct BIDS. In addition, calculating correlation coefficients of individual ADA and ACU measures compared to the ADA-ACU combination suggests a high degree of correlation. Specifically, the respective correlation coefficients are .66 and .71. This implies that our alternative of combining ADA and ACU scores will yield similar results compared to using ADA or ACU individually.

11. ADA and ACU data and congressional district data were obtained from Bureau and Upjohn (1997) and from U.S. Bureau of the Census (1994). The age of public employees, and not the ratio of public employees to population, is justified given that each congressional district is roughly the same population.

12. The results of these regression are available upon request from the authors. We believe the measure BIDS improves upon much of the literature in that it takes into consideration deviation to the left or right from our proxy of the median voter. Much of the literature attempts to measure median voter ideology by including past presidential votes as an independent variable.

13. We argue that the size of the residuals is a proxy for the size of deviation for the median voter of a congressional district. Much of the literature argues that deviation scores due to legislators (Tullock 1980, Backsman 1980) or signaling behavior on the part of legislative agents (Loft 1987, Doig and Munger 1988). In this paper, we are concerned with the measure of deviation more than possible causes. We are indebted to an anonymous referee for pointing this out.

14. Earlier estimations were conducted omitting open and blanket primary observations; however, the estimates retain their sign but not significance when combined.

REFERENCES


THE PRIVATE MARKET FOR ACCOMMODATION: DETERMINANTS OF SMOKING POLICIES IN RESTAURANTS AND BARS

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and

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INTRODUCTION

Adult smoking prevalence has been falling in the United States, down from 42.4 percent in 1965 to 24.1 percent in 1968, a 43 percent reduction. The percentage of adults who never smoked increased from 44 percent in the mid-1960s to 55 percent in 1997. It is not surprising then that owners of restaurants have responded to changing customer preferences by changing how they allocate their air space between smoking and non-smoking use. Restaurants without non-smoking seating sections have become exceptions. These provisions are not isolated to locations where state or local laws restrict or ban smoking and indicate an active private market in accommodation.

It has been shown that areas with lower adult smoking rates have more smoking laws and bans. It is important to note, however, that such laws have been introduced without much benefit of research on how the private market has dealt with the issue of accommodation of both smokers and non-smokers. Proponents of smoking restrictions often argue that smoking exerts a negative externality on non-smokers and that governments should control smoking through laws and bans. (Campaign for Tobacco Free Kids, 2002) Even if such externalities exist, it would appear to be useful first to ask whether, in the absence of laws, private markets work toward internalizing the externalities. An active market in accommodation might indicate that laws and bans are simply over-turning, partially or totally, actions of owners that had successfully dealt with smoking-related externalities.

This paper examines the diversity of private market accommodations in roughly 1,000 restaurants and bars in Wisconsin. We develop a model that predicts which factors determine the share of seating devoted to non-smoking use within the setting of profit-maximization. While it is important to note that the data are limited to Wisconsin, this is likely a reasonable case study for a number of reasons. First, the state has few stringent smoking laws, providing a rich data set to explore how volun...