

Television and the Incumbency Advantage in U.S. Elections¹

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Abstract

We use the structure of media markets within states and across state boundaries to study the relationship between television and electoral competition. Specifically, we compare incumbent vote margins in media markets where the content originates in the same state as the media consumers versus those where the content originates out-of-state. This contrast provides a clear test of whether television coverage correlates with the incumbency advantage. We study Senate and Gubernatorial races from the 1950s through the 1990s. We find that the effect of TV is small, directionally indeterminate, and statistically insignificant.

1. Introduction

The incumbency advantage is one of the most well-documented features of elections in the United States today. A large body of research has established that the incumbency advantage grew from roughly 1 or 2 percentage points in the 1940s to 8 to 10 percentage points in the 1990s.¹ The causes of the incumbency advantage and reasons for its dramatic growth, however, remain a puzzle.

The search for the origins of the incumbency advantage have gradually turned from the specific to the general. The incumbency advantage was first noted in U. S. House elections in the late 1960s and early 1970s, and it has driven much of the subsequent scholarship on federal and state legislative elections. In addition, it has been found that incumbents in nearly every state and federal office hold roughly similar electoral advantages, and the incumbency effect grew at roughly the same rate and at approximately the same time for all offices.² The search for the cause of legislators' incumbency advantages, then, has become a search for a general cause of incumbency advantages. There are a wide variety of plausible hypotheses, including the decline of party, interest group politics and campaign practices, and the growth of government.³

One important possible explanation is rise of television. Erickson (1995), drawing on the literature on US House and Senate elections, has laid out the logic elegantly:

“the entrenching of incumbency seems to have coincided with the rise of television. Media scholar Robert Lichter (Lichter *et al.*, 1986: 7) marks 1958 as the year ‘the age of television began,’ when the number of televisions approximately equaled the number of American homes. Perhaps not coincidentally, 1958 is also the precise year that the power of incumbency took off, according to Alford and Brady’s analysis. By 1960... television was clearly having a powerful political effect. And if television is the engine to reelection, money is the fuel. With a full-time fundraising staff, incumbents have long had an advantage when it comes to building campaign war chests (Jacobson 1980, Malbin 1984). Television both decreased the unit cost of reaching voters, and provided the political process with

¹The literature is massive. A sampling of different estimation techniques and results is found in Erikson (1971), Alford and Brady (1989), Gelman and King (1990), Levitt and Wolfram (1997), and Ansolabehere, Snyder and Stewart (2001).

²For a comparison of many offices see Ansolabehere and Snyder (2002).

³On the decline of party see Cover (1977); on campaign contributions and interest group activities see Jacobson (1980); on the rise of government see Fiorina (1980).

a medium that was revolutionary in terms of its capacity to create public images. It maximized the impact of campaign funds by making possible, like never before, a personal appeal to voters.”

Survey research provides further evidence of a possible link between television and the incumbency advantage. In general, incumbents receive more media coverage than their opponents (Robinson, 1981; Clarke and Evans, 1983; Goldenberg and Traugott, 1984; Graber, 1989; Kahn, 1991). Survey respondents who recognize a candidate are more likely to vote for that candidate (Jacobson, 1987), and respondents who have higher levels of overall media use (the questions are not specific to television) are more likely to vote for incumbents (Goidel and Shields, 1994). In addition, campaign managers evidently believe that television is the single most important communication medium (Hernsson, 1995), and incumbents typically spend much more on television than challengers.

A series of studies, beginning with Campbell, *et al.* (1984), seek to establish a direct link between television and electoral competition. The general approach is to measure the extent to which the structure of media markets effects election results and voting behavior. One set of studies constructs a measure of media market “congruence” or “fragmentation” in congressional districts or states. Campbell, *et al.* (1984), Niemi, *et al.* (1986), and Levy and Squire (2000) find that congressional challengers fair better in districts that more closely match media market boundaries (congruence). Reynolds and Stewart (1990) find that in states with many different television markets (fragmentation) incumbents garner a greater share of the vote. In both cases, the inference is that an ease in communicating via television *reduces* the incumbency advantage.

Prior (2002) introduces another measure of television in congressional districts – the number of television stations. He examines whether the number of televisions stations reaching a congressional district predicted the vote choice of respondents in to the National Election Survey from 1958 to 1970. He finds a significant relationship between the number of television stations and identification with the incumbent party, but insignificant direct effects of the number of television stations on intention to vote for the incumbent. He argues that there is an indirect effect of television on incumbency, operating through party identifications, and

estimates that effect to be in the neighborhood of 1 to 2 percent of the total vote.⁴

We propose an alternative way to measure the effect of television on electoral competition. We compare the incumbent vote margins in statewide elections in two different types of media markets – in-state media markets and out-of-state media markets. An in-state media market is a media market centered within a given state. The Milwaukee media market is an in-state media market for Wisconsin. An out-of-state media market is a media market centered in a city outside of a given state but which covers some part of a neighboring state. The Minneapolis media market is the primary media outlet for the counties of southwestern Wisconsin. News in the Minneapolis media market focuses on Minnesota state politics and elections, not Wisconsin politics and elections. As a result, voters in southwestern Wisconsin receive much less television coverage of their state’s politics than voters covered by in-state media markets such as Milwaukee.

Contrasting counties in in-state media markets and out-of-state media markets provides a better measure of the effects of television on the incumbency advantage for two reasons. First, the measure is more clearly a function of actual television coverage than other measures of media market structure, such as fragmentation or number of television stations. As noted below, television coverage of a state’s governor and other statewide officers is many times larger in in-state media markets than in out-state media markets. There is no evidence that fragmentation, congruence, and number of television stations correlate strongly with television coverage or advertising.⁵ Second, we can hold constant the candidates running,

⁴He specifies a hierarchical system of equations in which television predicts incumbent party identifications and then identifications plus television predict vote choice. One must include party identifications in the second equation to avoid omitted variable bias. There is the possibility that the system is truly simultaneous, in which case an instrumental variable estimator is required. The equation predicting vote choice as a function of number of television stations, identification with the incumbent party, and other factors yields a coefficient on number of television stations of approximately .02 with a standard error of .03; the coefficient on party identification is large and highly significant.

⁵Ansolahehere, Gerber, and Snyder (2002) measure the costs of television advertising directly using data on actual advertising rates, district by district, and find only a small correlation between congruence, fragmentation, and cost. Also, it is not clear that the number of television stations is a good proxy for media coverage. Indeed, expectations might run counter to the estimated effects. For example, suppose that television covers prominent personalities. In a district with one television station and one House member, the House member might receive a lot of coverage, as he is relatively prominent person. But, in a city with many House members and many television stations, House members may receive little or no television

the closeness of the election, and other features of the race. The same two candidates are running in all counties within a state. Voters in in-state media markets and in out-state media markets face the same electoral choices. This is an advantage over previous studies since they typically do not control for key variables such as candidate quality or type of district. Such controls are automatic in our study.

Our basic finding can be summarized as follows: We find no evidence that the incumbency advantage is systematically higher (or lower) in counties with in-state media markets than in counties with out-of-state media markets. Therefore, we doubt that television is responsible for the rise of the incumbency advantage.

2. Methodology

2.1 Study Design and Evidence

Media markets definitions are based on viewing patterns and do not respect state boundaries. A given media market may be concentrated in a city in one state and cover rural and suburban counties of a neighboring state. Examples include the Minneapolis-St. Paul Media Market which includes western Wisconsin, Chicago, which includes parts of Indiana, Denver which includes western Nebraska, Providence, RI, which includes Massachusetts, Pittsburgh which includes the panhandle of Maryland, and Atlanta which includes northeastern Alabama.⁶

Figure 1 shows a map of Massachusetts with the counties classified to as in either in-state or out-of-state media markets in 1980. In 1980, as well as 2000, Berkshire county (in the far west) was part of the Albany, NY media market and Bristol county (in the southeast) was part of the Providence, RI media market. During 2003-2004 two major network affiliates in Boston mentioned Massachusetts Governor Mitt Romney 194 times and

coverage (the mayor is likely to be much more prominent than any individual House member).

⁶The two most widely used are Designated Market Areas (DMA's), constructed by Nielson, and Areas of Dominance Influence (ADI's), constructed by Arbitron. According to Arbitron, "The Area of Dominance Influence [ADI] is a geographic market design that defines each television market exclusive of the others, based on measurable viewing patterns. Each market's ADI consists of all counties in which the home market stations receive a preponderance of viewing, and every county in the continental U.S. is allocated exclusively to one ADI" (*Broadcasting-Cable Yearbook*, 1990).

255 times respectively.⁷ Meanwhile, a Providence, RI network affiliate mentioned Romney only 29 times. In Albany, NY two network affiliates mentioned Romney 10 and 3 times respectively. Such levels of mention are likely the same as “noise” – for example, a network affiliate in San Francisco, CA mentioned Romney 4 times in the same period.⁸

Figure 2 shows a map of Illinois, also from 1980. The in-state media markets (in the northeast corner) are Chicago, Champaign, Peoria and Rockford, IL. The out-of-state dominated media market (in the southeast) is Evansville, IN. The other counties are in media markets that are not clearly dominated by a state - these media markets are Davenport, IA, Paducah, KY, Peoria, IL, St. Louis, MO and Terra Haute, IN. Counties in these media markets were removed from our study.⁹ Focusing on the counties in in-state vs. out-of-state dominated markets we find that in twelve months between 2003 and 2004 Illinois Governor Rod Blagojevich was mentioned 95, 64 and 280 times by three Chicago network affiliates. During the same time period two network affiliates in Evansville, IN mentioned Blagojevich 9 and 5 times.¹⁰

The anecdotes above illustrate the central assumption of our research design: In-state and out-of-state media markets differ in their coverage of politics of a particular state. This difference is commonly asserted in studies that examine media market fragmentation. Since television is the primary source of political news (Ansolabehere, Behr and Iyengar 1993), any viewer in an out-of-state media market will receive much less information about the candidates than viewers in an in-state media market.

The reasons for the differences are two-fold. First, a news director of a television station needs to decide how to best utilize a small number of reporters and limited air-time in order to satisfy the largest percentage of her customers. If most of her customers live in a single state, she will no doubt choose to report more heavily on upcoming elections in that state.

⁷A network affiliate is one that carries a majority of their programming from one of the major networks: ABC, CBS, NBC or FOX.

⁸Data on mentions was collected from the following URLs: <http://www.wcvb.com>, <http://www.wbz.com>, <http://www.wlne.com>, <http://www.fox23news.com>, <http://www.wnyt.com> and <http://www.kron.com>

⁹See Table 3 and Appendix B for further explanation.

¹⁰Data on mentions was collected from the following URLs: <http://www.cbs2chicago.com>, <http://www.nbc5.com>, <http://www.abc7chicago.com>, <http://www.weht.com> and <http://www.14wfie.com>

People who live in counties that are in out-of-state media markets will see very little, if any, coverage of the political races that affect them (Stewart and Reynolds, 1990). Second, political campaigns for statewide office face a similar resource allocation problem. They too have limited resources, and it is very expensive on a per voter basis to advertise in an out-state media market.

Although this assumption is frequently made in other studies of media markets, we are the first to document the differences in free and paid media between in-state and out-of-state media markets.

News Media Coverage of Incumbents

We conducted a comprehensive analysis of news coverage of governors on 90 stations in 51 media markets. For each media market, we searched the on-line archives of the three network affiliated stations for stories that mention the governors of states covered by that media market.¹¹

Table 1 gives the overall number of stories about states' governors. The table presents the results for all 51 markets, as well as examples from the ten most populous media markets of the 51 we surveyed. Overall, we found that news programs aired 10 times as many stories about the in-state governor than they did of governors from neighboring states covered by the media market. The number of stories about the out-of-state governors was typically extremely small, and on the order of noise.

An interesting exception arises in Chicago. Indiana Governor O'Bannon received a large amount of attention on Chicago television in 2002. The reason? He suffered a stroke and died *in Chicago*. Almost all of the coverage of the Indiana governor came after his death. Reading of the stories of the in-state Governor suggests that most of the coverage is about day-to-day state politics, such as the budget, staged events such as entertaining foreign dignitaries and press conferences, and responses to natural disasters.

¹¹In general the archives went back about a year, with no archive spanning a shorter time than 6 months, or predating 2000. We have focused on stories from January, 2003, to April, 2004.

Paid Media: Campaign Advertising

Using data gathered by Wisconsin Advertising Project¹² we can examine the advertising patterns of Senatorial and Gubernatorial candidates for 2002 and 2004. This dataset contains information on each time an ad was shown by one of the national network affiliates. Along with descriptive information about each ad, the authors of the dataset also estimate how much it cost to show that ad.

We analyzed the number of ads and advertising expenditures by candidates in in-state vs. out-of-state media markets. The results are presented in Table 2. As with news coverage, out-of-state media markets suffer from a paucity of political coverage from campaign advertising. There are 20 times fewer ads in out-of-state markets, and candidates spend 40 times less in these markets.

NES Data

Further support for our research design comes from the National Election Studies. The 1974 and 1978 Senate studies have sufficient information to identify which people reside in in-state and out-state media markets and their interest in the election and exposure to news.¹³ While these questions are subject to over-reporting and are not as specific as we would like, they do indicate a substantial difference in media exposure rates between respondents in in-state and out-state markets.

In the 1974 data, about 70% of respondents living in counties with in-state media markets report that they saw a Senate candidate on television during the campaign, compared to only 50% of respondents living in counties with out-of-state media markets. This difference

¹²In order to use this data we must state the following: “The data was obtained from a project of the Wisconsin Advertising Project, under Professor Kenneth Goldstein and Joel Rivlin of the University of Wisconsin-Madison, and includes media tracking data from the Campaign Media Analysis Group in Washington, D.C. The Wisconsin Advertising Project was sponsored by a grant from The Pew Charitable Trusts. The opinions expressed in this article are those of the author(s) and do not necessarily reflect the views of the Wisconsin Advertising Project, Professor Goldstein, Joel Rivlin, or The Pew Charitable Trusts.”

¹³The only NES surveys to ask about contact with Senate candidates are the 1974 and 1978 surveys. The Pooled Senate Election Study also contains such questions, but it does not contain county identifiers so we could not determine the type of media market in which each respondent lived.

of 20 percentage points is significant at the 0.01 level. Respondents living in out-of-state media markets show the same levels of interest in and attentiveness to the campaign. They differ, then, in the amount of information television provides.

The 1978 data set contains more detailed questions regarding contacts with Senate candidates. Once again, we find that respondents living in counties with out-of-state media markets are 20 percentage points less likely to report seeing a Senate candidate on television compared to those living in in-state media markets (90% to 70%, respectively). Respondents reported the same level of contact with Senate candidates via mail and radio in both types of counties.¹⁴

Free and paid media are the primary reasons that television, as a medium, is thought to generally benefit incumbents. Ansolabehere, Behr, and Iyengar (1993), Prior (2002), Erickson (1995), and others assert that the rise of television contributes to the incumbency advantage through exactly these two mechanisms. If this effect is real and large enough to explain a noticeable share of the incumbency advantage, then incumbents should enjoy higher vote margins in in-state media markets than they do in out-of-state media markets.

2.2. Statistical Model and Data Processing

To measure the effect of television on electoral behavior, we contrast the difference in incumbent vote margins in counties that are covered by in-state media and counties that are covered by out-of-state media. We study Gubernatorial and Senatorial races. These are the most prominent offices in a given state and have, by far, the largest amount of media attention. Also, these two offices encompass the entire state and determining which markets are inside the jurisdiction is straightforward - unlike some House districts. Although most of the literature on this topic concerns House elections, the rise in the incumbency advantage in Senatorial and Gubernatorial election parallels the House quite closely (Ansolabehere and Snyder, 2002).

¹⁴There is some evidence of substitution at work. Respondents in counties with out-of-state media markets were 30% more likely to report that they had contact with a Senate candidate or one of their staffers, or attended a rally with a senate candidate, than respondents in counties with in-state media markets. These results suggest that candidates severely curtail television advertising in those counties that are in out-of-state media markets but sometimes attempt to counter this deficit by focusing on those counties in other ways.

We use a statistical model of the incumbency effect developed by Levitt and Wolfram (1997). Let i index offices, let j index counties, and let t index years. Let V_{ijt} be the share of the two-party vote received by the Democratic candidate running for office i in county j contained in state k in year t . Let $I_{ikt}=1$ if the Democratic candidate running for office i in state k in year t is an incumbent, let $I_{ikt}=-1$ if the Republican candidate running for office i in state k in year t is an incumbent, and let $I_{ikt}=0$ if the contest for office i in state k in year t is an open-seat race. Then:

$$V_{ijt} = \alpha_j + \theta_t + \beta_{in}I_{ikt} + \epsilon_{ijt} \quad (1)$$

if j is in an in-state media market

$$V_{ijt} = \alpha_j + \theta_t + \beta_{out}I_{ikt} + \epsilon_{ijt} \quad (2)$$

if j is in an out-of state media market. We then compare the coefficients β_{in} and β_{out} . We allow all coefficients to vary by decade.

To capture the partisan division of counties and national partisan tides, the model includes separate year and county fixed-effects. The county fixed-effects capture the underlying partisanship (normal vote) in each county, and the year fixed-effects capture national tides. A potentially serious objection to this model is that partisanship moves in different directions in different counties across different years. This, and other objections, can be addressed using slight variations on the specification. The results obtained using various alternative specifications are presented in the Appendix (Table A.3). They are not significantly different than the results reported in the body of the paper.

Estimating equations (1) and (2) by ordinary least-squares gives equal weight to each county, no matter how small or large the county is. However, we are mainly interested in the behavior of voters, not counties. We therefore estimated equation (1) and (2) via weighted least squares, weighting by population. It is of course impossible to eliminate aggregation bias simply via weighting, and some readers will prefer to see OLS estimates, so we present unweighted results of all specifications in the Appendix (Tables A.5-A.7).

Table 3 presents the definitions and filters we used in analyzing the data. Further information on these filters, as well as information on the sources of the data, can be found in Appendix B. Table 4 gives summary statistics on the data itself.

3. Results

Our basic results are summarized in Table 5. The most important figures are the differences between the level of the incumbency advantage in the two types of counties. If this difference is negative, it means that the data indicate television lowered the incumbency advantage. If it is positive, then television has increased the incumbency advantage.

The first column pools all the data, while the second and third columns focus on midterm and presidential years, respectively. We analyzed these separately because the media situations might be quite different in those years. For example, the high intensity and vast coverage of the presidential campaign might “crowd out” other campaigns.

The results tell a simple story. For the most part the difference in incumbency advantage between the two types of counties is small and statistically insignificant. The difference also does not seem to be increasing, so it is unlikely that the rise in incumbency advantage is due to television. Finally, the difference is generally less than 25% of the total incumbency advantage. In no cases were we able to reject the hypothesis that the incumbency advantage in the two different kinds of counties was different, even at the 0.1 level. Looking at the presidential and midterm years, we find that in only one case would we reject the null hypothesis at the 0.01 level – elections in non-presidential years between 1986-1995. And in this case the estimates indicate that television had a *negative* effect on the incumbency advantage.¹⁵

A natural experiment, like this one, may have flaws that bias the results. The following sections deal with the most likely sources of bias. We emphasize that all of the analyses that follow support the results displayed in Table 5.

¹⁵There was no reason to believe *a priori* that television had a negative or positive effect on the incumbency advantage, however a finding that television caused a *decrease* in the incumbency advantage would lead there to be that much more of an incumbency advantage to explain. However, our data clearly indicate that television has almost no effect either way on the incumbency advantage.

The Rise of Cable Television

Local cable television stations in an “out-of-state” market might cover in-state politics. Based on the information below, we believe that cable television is irrelevant to our study frame, and cable news does not alter the general method developed here.

Cable television had virtually no market in any county before the mid-1980s, which is the end of our study frame. Cable penetration had only reached 20% by 1980. By 1995 that number had risen to 65% of homes with televisions, but cable accounted for only 46% of total viewing hours (Eisenmann, 2000). Furthermore, the results we observed in the first three decades of our study, when the impact of cable were negligible, do not differ significantly from the last decade. If cable television had an impact on the incumbency advantage then we would expect to see a different pattern in the first three decades of our study as opposed to the fourth. No such pattern is supported by the data.

Furthermore, cable news programming didn’t exist until the mid 1980s and was not an important medium until the mid-1990s (Thalhimer *et. al.*, 2004). Ultimately, this paper is about whether television viewing and news coverage might explain the emergence of the incumbency advantage in the 1950s and 1960s and its expansion through the mid-1980s. Cable comes on the scene long after the incumbency advantage.

Finally, the general method of comparison incorporates cable viewing in three ways. First, the definition of the media market (DMA) incorporates cable and network viewing behavior. If there was significant local cable viewing then this would effect the definition of the county’s DMA. Second, local cable news receives trivial ratings today. It does not reach enough viewers to affect elections. Third, cable news outlets do not appear to behave differently than broadcast news with regards to incumbents. We have examined cable news outlets (mainly FOX), and they too give much more coverage to the in-state governor. Cable news coverage of elections is folded into the comparisons made in Table 1.

Demographic Differences between Counties in In-State vs. Out-state Markets

Counties in out-of-state media markets are much smaller and less urban, and a bit poorer than those in in-state media markets. These differences are not of particular concern since at disaggregated levels these characteristics have not been found to be linked to the size of the incumbency advantage. However, at a state level population has been linked to the size of the incumbency advantage (*e.g.*, Hibbing and Brandes, 1983). Differences in partisanship – a factor that *is* clearly linked to the incumbency advantage – are small and generally insignificant. Details of these differences can be found in Appendix A (Table A.1).

In order to assuage concerns that these differences might bias our results, we matched the counties with out-of-state media markets to counties with in-state media markets on the four dimensions below and estimated the size of the incumbency advantage using only the matched counties. The results are summarized in the Appendix A (Table A.2). They are not significantly different from our results without using matching. The results presented in the rest of this paper do not employ matching in order to capitalize on the statistical power of a larger data set.

Closeness of Race

Another possible source of bias is that media exposure, both paid and free, varies widely across different elections based on the closeness of the race, and the strategies employed by the candidates. For most years we do not know how much candidates spent on media since candidate's expenditure reports are at such widely varying levels of granularity. Some of them itemize each expenditure, while others report only a single amount spent with a consulting group that takes care of both the production of ads and the buying of air-time (Stewart and Reynolds, 1990).

For 1970 and 1972, however, the Federal Communications Commission (FCC) collected data on how much each senate and gubernatorial candidate spent on television advertising. We used this data to divide our sample into terciles based on the amount of money per capita spent on television in that race. Media spending is an accurate proxy for the media exposure

of a campaign. If our design covered up a difference in media effects by not incorporating the relative media intensities of campaigns, it should show up in this analysis.

The results are summarized in Table 6. The difference in incumbency advantage between the two types of counties varies quite a bit across the three terciles, but there is no discernible pattern. The tercile with the highest media spending, and thus, media intensity, does not have a larger (or positive) difference than the other terciles. The exact results are somewhat sensitive to the thresholds used to define “High” vs. “Low” spending. In no case, however, do the estimates exhibit a consistently and significantly higher incumbency advantage in the counties dominated by in-state television. This indicates that the basic findings reported in Table 5 are not masking the effects of varying media intensity.

A similar analysis can be done by dividing all of the data in our data set into quartiles based on the closeness of the race. We could do this by using the observed ex-post closeness of the race, but this raises endogeneity concerns as we would be dividing the data set by the dependent variable of our regression. Instead, we use as a proxy for media intensity the pre-election predictions reported in *Congressional Quarterly Weekly Reports (CQ)*.

Each election year, *CQ* makes predictions about how close a race is going to be and who they believe will win the election. They always predict congressional, and occasionally gubernatorial, races. For the years 1956-1976 they used what is effectively a three point scale to judge race closeness. This ranged from the closest (Doubtful, or No Clear Favorite depending on year) to the least competitive (Safe Democratic or Safe Republican). The *CQ* predictions take media intensity into effect, as the comments that go along with each race often point to high media intensity or well funded competitors in justifying the call. More details of this data can be found in Appendix B.

Table 7 presents the results of using these predictions to separate races of varying degrees of competitiveness.¹⁶ The tightly contested races – those that in general will have a higher media intensity than less contested races – show no discernible increase in the incumbency

¹⁶The number of observations is different than that in previous tables because *CQ* usually does not make predictions about gubernatorial races.

advantage due to television. If anything, they show a slight, and statistically insignificant, decrease in the incumbency advantage due to television.

Finally, as noted above, we present unweighted (OLS) versions of Tables 5-7 in Appendix A (Tables A.4 - A.6, respectively). The results are generally similar to the weighted results, and the overall conclusion to draw from them is the same.

4. Conclusion

Our results strongly suggest that the rise of the incumbency advantage had little to do with television. We find that television has a small, directionally indeterminate, and statistically insignificant effect on the incumbency advantage. Since the growth of the incumbency advantage in the US Senate and Governorships parallels that in the US House, the state legislatures, and executive offices we believe that our results are indicative of those that would be found with these other offices.

The methodology developed in this paper can be readily extended to other settings. Specifically, it is possible to conduct a similar analysis for U.S. House districts. That analysis is not performed here as some adjustments would be needed in order to account for the small number of house districts with both in and out of state media. One might also use this approach to measure the effects of media coverage on other sorts of political outcomes, such as turnout or, using survey data, individuals' attitudes and perceptions of competition.

It is also important to point out what we have *not* shown.

We have not shown that campaigns have no effect on the incumbency advantage – only that television, as a campaign medium, is no more effective at conveying an incumbency advantage than any other type of campaigning. Our findings are consistent with those in Ansolabehere, Gerber and Snyder (2002), who find that when congressional candidates face high costs of television advertising they substitute strongly into other forms of communication, such as direct mail.

Our finding only applies to the effect of television campaign ads and television news coverage of specific electoral contests, not the broader effect of television on American culture

or politics. Specifically, we have compared counties that received campaign ads and news coverage of elections with those that did not. We did not compare counties where there were no televisions to counties with televisions (indeed, we could not, as television was in nearly every county by the late 1950s).

Another argument holds that television changed politics itself. The “insider” orientation of television news may stimulate people to think more highly of incumbents or to think that incumbency matters a lot and they should vote for incumbents whenever they see them. Television coverage of politics and campaigns might produce a general, pro-incumbent message – more pro-incumbent than other media – helping incumbents running in all offices. Television might also cause other news media to change their messages in a pro-incumbent direction. We cannot rule out the hypothesis that television caused the incumbency advantage by promoting incumbents in general across the country, because our comparison is based on within state comparisons.

This cultural argument, however, is different than the standard arguments. The usual arguments – and the claims made in the existing empirical literature – involve biased coverage and unequal resources for television advertising, which varies *race by race*. The arguments are of the form: “Individual incumbents receive more television coverage than their opponents, and/or they receive more favorable coverage, and/or they spend more on television advertising, affecting the voting behavior of voters *in that race*.” The arguments are not of the form: “television coverage is generally pro-incumbent, so all voters think more highly of all incumbents and vote for them a bit more than they would have otherwise (even though they have not seen specific messages from or about most of these incumbents).”

Demonstrating that such a shift has occurred requires a much broader comparison – across countries. But, when one looks abroad, there is an obvious problem with the hypothesis that television is a key driver of the incumbency advantage in the United States. Television is ubiquitous in advanced industrial democracies, but few countries have incumbency advantages estimated to be more than one or two percentage points. Even those with similar electoral systems, such as Britain and Canada, have trivial incumbency advantages.

It is easy to suspect television as the culprit behind the large shift in American electoral politics that occurred in the 1950s and 1990s. But the evidence of an actual connection is slight. The search for the cause of the incumbency advantage in the United States, then, should focus on other changes in our institutions, culture, or politics.

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Appendix A: Detailed Statistical Treatment

This appendix addresses three statistical issues raised in the text. First, as mentioned in Section 3, there are significant differences between counties with in-state media markets and those with out-of-state media markets. We corrected for this difference by matching counties along each of the four dimensions summarized in Table A.1. We matched each out-of-state county with the in-state county that had the most similar demographic characteristics. Thus, the averages for the counties in in-state and out-of-state markets along each dimension became statistically indistinguishable. The results are summarized below in Table A.2. As reported above, controlling for these factors had no real effect on our main result – the difference in incumbency advantage due to television is small and statistically insignificant.

Second, as mentioned in Section 2, our method exploits the panel-data structure of two features of American elections. These features are (1) The United States holds many elections for any one type of office at one time, and (2) these elections occur at regular intervals. The results in the body of the paper do not exploit a third feature of American elections: the fact that the United States holds many elections within a given state or county at the same time. Since we examine both Senatorial and Gubernatorial elections we can exploit this feature to some extent; however, since we examine *only* these two types of elections our ability to exploit this feature is limited.

Exploiting these features allows us to avoid statistical problems associated with estimating a normal vote. We take this normal vote into account by using year fixed effects to exploit the first feature above, and county fixed effects to exploit the second feature above. If we were able to exploit the third feature above, we would be able to use a combined county-year fixed effect. However, we believe that estimating county and year fixed effects separately is also valid, since the normal vote varies much across counties in a given year than it does over time in a given county.¹⁷

The three formulas below correspond to the three columns of Table A.3. Let i index offices, j index counties, and t index years. Let V_{ijt} be the share of the two-party vote

¹⁷For more details, see Ansolabehere and Snyder (2002).

received by the Democratic candidate running for office i in county j contained in state k in year t . Let $I_{ikt}=1$ if the Democratic candidate running for office i in state k in year t is an incumbent, let $I_{ikt}=-1$ if the Republican candidate running for office i in state k in year t is an incumbent, and let $I_{ikt}=0$ if the contest for office i in state k in year t is an open-seat race. Additionally let year t be in decade d . Then:

$$V_{ijt} = \alpha_{jt} + \beta_i I_{ikt} + \epsilon_{ijt} \quad (3)$$

$$V_{ijt} = \alpha_{jd} + \theta_t + \beta_i I_{ijkt} + \epsilon_{ijt} \quad (4)$$

$$V_{ijt} = \alpha_j + \theta_{tk} + \beta_i I_{ikt} + \epsilon_{ijt} \quad (5)$$

As in the body of the paper, we estimate each equation separately for counties in in-state and out-of-state dominated media markets. We also allow the parameters to vary each decade.

Finally, the last two tables in the appendix are the unweighted (OLS) versions of Tables 5 - 7 in the main body of the paper. These tables use year and county fixed effects, as do all the tables in the main body of the paper. We number these tables A.4 - A.6.

Appendix B: Data

County-level election returns are from ICPSR study number 13 (*General Election Data for the United States, 1950-1990*), and *America Votes* (1992, 1994, 1996, 1998, and 2000). Incumbency status is from a variety of sources (see Ansolabehere and Snyder, 2002, for details).

Media market definitions are from *Broadcast and Cable* (1970, 1980, 1990, 2000). We were unable to procure data on media market boundaries for the 1950s. However, media market boundaries have changed very little over the period that we did have data for, so we used media market information from the late 60s for the beginning part of our study. The most likely change to the media market structure would have been that the less populous areas had no established media markets. This would only be an issue for the years 1956-1960 in our study, since 90% of families owned television sets by 1960. Removing the least populous media markets for the early years of our study did not significantly effect our results. The effect of television on the incumbency advantage was still small (0.32%), and statistically insignificant.

We defined the dominant state of a media market to be the state that had at least $\frac{2}{3}$ of the population of that media market. Likewise, we defined a county to be in a media market that was out-of-state dominated if the state the county was in had less than $\frac{1}{3}$ of the population of the media market. We drop all counties that did not fall into one of these categories. We can include all counties by dropping the threshold for being classified as in-state dominated from $\frac{2}{3}$ to $\frac{1}{2}$ and raising the threshold to be considered out-of-state dominated from $\frac{1}{3}$ to $\frac{1}{2}$. Doing so does not significantly effect the results. We experimented with other thresholds as well (e.g., $\frac{3}{5}$ and $\frac{2}{5}$, $\frac{9}{10}$ and $\frac{1}{10}$) and in all cases found results similar to those reported in Table 5.

Some markets are not centered in a single state. For example, a large fraction of the population of the St. Louis, Missouri, media market resides in Illinois. It is difficult to assert that the news directors in such markets will focus on just their own state. We omit such markets from the analysis in this paper - we focus only on media markets that are

disproportionately in one state.

Occasionally a county may change from an in-state media market to one that is out-of-state. Since we only collected media market at the beginning of each decade, this creates difficulty in classifying the county in the years in between. In order to avoid this difficulty, we dropped these counties from the analysis for the decade when their status was indeterminate. Including these counties in the media market they were in at the beginning or end of the decade did not qualitatively change the results in Table 5.

In some states, only a small percentage of the population lives in a media market that is dominated in-state. We dropped all counties in states where less than two-thirds of the population lived in in-state dominated media markets – we call these states “overwhelmed” by out-of-state media. The reasoning is that politicians would not neglect TV advertising to such a large percentage of voters and hence would advertise in out-of-state media markets. Additionally, there is anecdotal evidence that overwhelmed states will have smaller stations that simply do not garner a majority of the viewing audience. Again, varying the threshold has only minor effects on our results.

In 1980, the states fell into the following categories: DE, IN, KS, KY, MD, MO, ND, NH, NJ, RI, WV, and WY were “overwhelmed,” ME, TX, and UT had only in-state dominated counties, and the rest had both in-state dominated and out-of-state dominated counties (AL, AR, AZ, CA, CO, CT, FL, GA, IA, ID, IL, MA, MI, MN, MS, MT, NC, NE, NH, NM, NV, NY, OH, OK, OR, PA, SC, SD, TN, VA, VT, WA, WI).

There are some important notes on the data we collected from *CQ*. For 1960-1964 *CQ* used what is effectively a five point scale, however, the names of the ratings put the two additional points between the three others generally used throughout this period. Including these in-between calls in one or the other surrounding closeness categories did not significantly change the results. Additionally, 1972 used a two point scale and was excluded from this analysis. Between 1978 and 1992, *CQ* switched to what is essentially a four point scale for race closeness. The scoring system used in 1994 is difficult to normalize across seats held by Democrats and Republicans. The data for 1976 is omitted because it uses a 3 point scale.

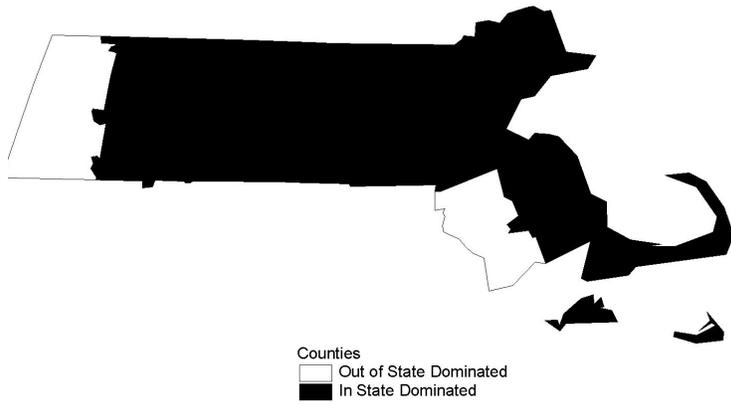


Figure 1: Massachusetts in 1980

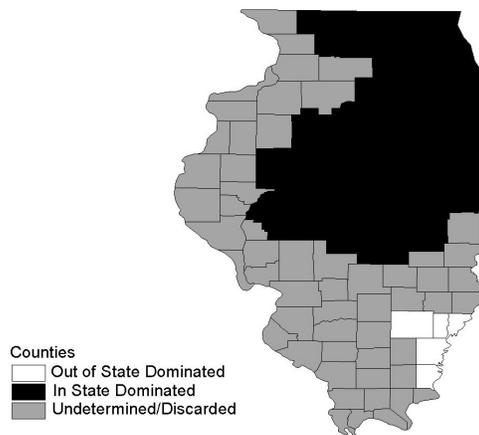


Figure 2: Illinois in 1980

Table 1: Summary of Media Market Data					
	Number of Stations	In-State Hits	Average # Per Market	Out-of-State Hits	Average # Per Market
All Markets	91	10,675	210	1,045	20
10 Most Populous Markets in Sample					
Media Market	Station	In-State Hits	Governor	Out-of-State Hits	Governor
Chicago, IL	WBBM	95	Blagojevich	15	IN: O'Bannon, Kernan ¹
	WLS	280	Blagojevich	44	IN: O'Bannon, Kernan ¹
Atlanta, GA	WGNX	222	Perdue	6	AL: Riley
	WXIA	100	Perdue	2	AL: Riley
Pittsburgh, PA	WTAE	82	Rendell	7	MD: Ehrlich
	KDKA	133	Rendell	4	MD: Ehrlich
Denver, CO	KCNC	250	Owens	4	NE: Johanns
	KMGH	80	Owens	1	NE: Johanns
	KUSA	50	Owens	5	NE: Johanns
Salt Lake City, UT	KSL	630	Leavitt, Walker	2	ID: Kempthorne
				0	NV: Guinn
	KTVX	32	Leavitt, Walker	1	ID: Kempthorne
				0	NV: Guinn
Raleigh, NC	WNCN	89	Easley	13	VA: Warner
Nashville, TN	WSMV	500	Bredesen	22	KY: Patton, Fletcher
	WTUV	114	Bredesen	0	KY: Patton, Fletcher
Buffalo, NY	WIVB	100	Pataki	1	PA: Randell
	WGRZ	3	Pataki	0	PA: Randell
New Orleans, LA	WDSU	31	Blanco, Foster	1	MS: Barbour, Musgrove
	WWLT	399	Blanco, Foster	9	MS: Barbour, Musgrove
Albuquerque, NM	KOAT	188	Richardson	3	CO: Owens
				0	AZ: Napolitano
	KOB	24	Richardson	1	CO: Owens
				1	AZ: Napolitano
¹ IN Governor O'Bannon died during the period surveyed - most articles are about his death.					

Table 2: Advertising in In-state vs. Out-of-state Media Markets						
	Senate		Governor		Total	
	In-State	Out-of-State	In-State	Out-of-State	In-State	Out-of-State
2000						
Avg. Ads	3,584	34	5,228	413	3,790	139
Avg. Expenditure	\$2,751,704	\$16,994	\$2,526,207	\$192,685	\$2,723,517	\$65,460
n	56	21	8	8	64	29
2002						
Avg. Ads	4,225	116	7,311	614	6,093	370
Avg. Expenditure	\$2,321,108	\$52,314	\$5,425,931	\$211,894	\$4,200,343	\$133,733
n	45	24	69	25	114	49

Table 3: Filters and Definitions Used in Analysis		
Filter	Definition Used in Paper	Notes
Out-of-State	$< \frac{1}{3}$ media market population in state	Changing threshold does not alter results
In-State	$> \frac{2}{3}$ media market population in state	Changing threshold does not alter results If no state has $> \frac{2}{3}$, discard data
Flipped	Discard if county changes media market during decade	Including/Discarding does not alter results
Overwhelmed	State with no in-state media markets	Candidates in these states are likely to advertise in out-state markets

Table 4: Summary of Data by Decade							
Decade ¹	Total Counties	In-State Media Market	Out-of-State Media Market	Flipped	Overwhelmed	Actual Sample ²	
						In-State Media Market	Out-of-State Media Market
1960	3,030	2,069	531	189	1,079	1,457	239
1970	3,037	2,105	512	187	917	1,567	253
1980	3,045	2,166	482	166	842	1,657	270
1990	3,022	2,197	453	124	801	1,703	263

¹ We collected the data in this table at the beginning of each decade
² Sample after removing all Flipped and Overwhelmed counties
Note: In-State and Out-of-State categories do not add up to total; residual category is set of counties where dominating state is unclear
Note: Independent Cities (in VA), Baltimore City, and St. Louis City counted as counties
Note: AK, HI, and counties with less than 1,000 votes were dropped

Table 5: Weighted Estimates of Incumbency Advantage in Different Media Environments			
	All Years	Non-Pres. Election Year	Presidential Election Year
<i>1956-1965</i>			
With In-State Media	2.41 (0.31)	1.88 (0.44)	3.50 (0.65)
With Out-of-State Media	2.92 (0.46)	2.40 (0.66)	3.91 (0.81)
Difference	0.24	-0.52	-0.41
F	-0.87	0.43	0.16
n	9,109	3,722	5,387
<i>1966-1975</i>			
With In-State Media	4.37 (0.40)	4.46 (0.49)	6.16 (0.83)
With Out-of-State Media	4.30 (0.68)	3.51 (0.94)	5.33 (1.04)
Difference	-0.07	0.95	1.03
F	0.01	0.84	0.41
n	9,748	6,406	3,342
<i>1976-1985</i>			
With In-State Media	5.55 (0.33)	5.24 (0.42)	8.73 (0.63)
With Out-of-State Media	4.83 (0.59)	5.53 (0.87)	5.60 (1.18)
Difference	0.72	-0.29	<i>3.13</i>
F	1.16	0.10	6.03
n	9,356	5,036	4,320
<i>1986-1995</i>			
With In-State Media	7.43 (0.25)	7.19 (0.31)	8.05 (0.65)
With Out-of-State Media	8.22 (0.52)	9.40 (0.65)	6.18 (1.06)
Difference	-0.79	-2.21	1.87
F	1.86	9.17	2.28
n	11,107	8,091	3,016
Bold = significant at the 0.01 level <i>Italics</i> = significant at the 0.1 level			

Table 6: Weighted Estimates of Incumbency Advantage by TV Spending Per Capita for 1970 & 1972				
	Least Expensive Tercile	Middle Tercile	Most Expensive Tercile	All Data
With In-State Media	<i>4.85</i> (2.09)	<i>6.64</i> (3.36)	11.97 (1.76)	6.51 (0.79)
With Out-of-State Media	17.27 (1.90)	<i>14.00</i> (5.45)	12.33 (2.37)	9.90 (2.18)
Difference	-12.42	-7.36	-0.36	-3.39
F	54.26	7.46	0.02	2.10
n	1,296	1,292	1,201	3,867
Bold = significant at the 0.01 level <i>Italics</i> = significant at the 0.1 level				

Table 7: Weighted Estimates of Incumbency Advantage By Competitiveness of Race, 1956-1995					
	Competitiveness Category				
	High	Medium	Low	All	
<i>1956-1965</i>					
With In-State Media	-1.24 (0.36)	3.00 (0.61)	5.31 (1.41)	2.31 (0.33)	
With Out-of-State Media	-1.47 (0.54)	3.28 (0.80)	3.73 (3.54)	3.04 (0.48)	
Difference	0.23	-0.28	1.77	-0.73	
F	0.15	0.09	0.17	1.60	
n	2,216	3,003	2,961	8,180	
<i>1966-1975</i>					
With In-State Media	3.85 (1.49)	2.08 (0.57)	<i>6.14</i> (2.67)	4.31 (0.41)	
With Out-of-State Media	1.52 (1.66)	2.74 (0.85)	<i>3.74</i> (2.15)	4.06 (0.64)	
Difference	2.33	-0.66	3.40	0.25	
F	2.09	0.47	7.02	0.11	
n	2,026	4,115	1,696	7,837	
	High	Med 1	Med 2	Low	All
<i>1976-1985</i>					
With In-State Media	2.96 (0.92)	5.46 (1.10)	<i>2.12</i> (0.95)	1.92 (2.63)	6.40 (0.33)
With Out-of-State Media	1.49 (1.41)	<i>3.70</i> (2.07)	<i>2.89</i> (1.35)	13.20 (4.49)	5.00 (0.57)
Difference	1.47	1.76	-0.77	<i>-11.28</i>	<i>1.40</i>
F	1.61	0.74	0.23	4.70	5.02
n	1,154	2,487	2,187	1,587	7,415
<i>1986-1995</i>					
With In-State Media		<i>1.54</i> (0.75)	5.40 (0.88)	22.82 (2.69)	6.33 (0.46)
With Out-of-State Media	Not Enough Data	<i>2.01</i> (0.86)	8.11 (5.63)	22.61 (2.12)	5.53 (0.82)
Difference		0.47	-2.71	0.21	0.80
F		0.19	0.23	0.02	0.73
n		1,907	1,173	1,352	4,798
Bold = significant at the 0.01 level <i>Italics</i> = significant at the 0.1 level					

Table A.1: Summary Statistics of Counties with In-State vs. Out-of-State Media Markets			
Decade	In-State Media Market	Out-of-State Media Market	Difference
<i>Population</i>			
1960	87,236	28,288	58,948
1970	94,811	34,328	60,482
1980	102,338	32,802	69,536
1990	102,930	35,917	67,012
<i>Median Income</i>			
1960	\$5,761	\$5,311	\$450
1970	\$10,490	\$9,615	\$875
1980	\$20,647	\$18,671	\$1,976
1990	\$28,963	\$26,765	\$2,197
<i>Pct. Urban</i>			
1960	38.73%	26.44%	12.29%
1970	40.57%	29.02%	11.55%
1980	40.73%	28.60%	12.12%
1990	40.63%	29.67%	10.96%
<i>Democrat P.</i>			
1960	52.59%	52.27%	0.32%
1970	50.90%	51.76%	<i>0.86%</i>
1980	47.98%	48.60%	<i>0.62%</i>
1990	46.71%	48.46%	1.76%
Bold = significant at the 0.01 level <i>Italics</i> = significant at the 0.1 level			

Table A.2: Estimates of Incumbency Advantage Controlling for Properties of Counties				
	Population	Median Income	Urban Percentage	Democratic Percentage
<i>1956-1965</i>				
With In-State Media	3.45 (0.52)	2.99 (0.56)	3.45 (0.52)	2.01 (0.64)
With Out-of-State Media	2.88 (0.46)	2.95 (0.48)	2.93 (0.46)	2.75 (0.53)
Difference	0.57	0.04	0.52	-0.74
F	0.69	0.00	0.54	0.95
n	2,898	2,966	2,927	2,907
<i>1966-1975</i>				
With In-State Media	3.74 (0.53)	4.73 (0.67)	4.00 (0.56)	3.97 (1.18)
With Out-of-State Media	4.33 (0.65)	4.27 (0.69)	4.33 (0.66)	4.03 (0.74)
Difference	-0.59	0.46	-0.33	-0.06
F	0.69	0.24	0.15	0.00
n	3,096	3,031	3,136	3084
<i>1976-1985</i>				
With In-State Media	5.80 (0.59)	5.06 (0.92)	6.11 (0.56)	<i>3.72</i> (1.50)
With Out-of-State Media	5.55 (0.56)	5.60 (0.65)	5.36 (0.58)	4.66 (0.94)
Difference	0.15	-0.54	0.75	-0.94
F	0.10	0.28	0.95	0.28
n	3,156	3,104	3,210	2,997
<i>1986-1995</i>				
With In-State Media	9.30 (0.55)	7.84 (0.50)	9.35 (0.57)	8.41 (0.77)
With Out-of-State Media	8.25 (0.56)	8.09 (0.54)	8.24 (0.58)	8.16 (0.62)
Difference	1.05	-0.25	1.09	0.25
F	1.91	0.12	1.96	0.06
n	3,559	3,568	3,665	3,510
Bold = significant at the 0.01 level <i>Italics</i> = significant at the 0.1 level				

Table A.3: Estimates of Incumbency Advantage Using Different Fixed Effect Models			
	County- Year	County- Decade & Year	State-Year & County
<i>1956-1965</i>			
With In-State Media	3.37 (0.65)	3.23 (0.39)	3.42 (0.44)
With Out-of-State Media	4.39 (0.62)	3.39 (0.60)	3.48 (0.47)
Difference	-0.98	-0.17	0.06
F	1.29	0.05	0.01
n	9,109	9,109	9,109
<i>1966-1975</i>			
With In-State Media	6.97 (0.70)	5.08 (0.43)	6.90 (0.44)
With Out-of-State Media	5.35 (1.07)	5.05 (0.70)	6.64 (0.61)
Difference	1.62	0.03	0.26
F	1.61	0.00	0.20
n	9,748	9,748	9,748
<i>1976-1985</i>			
With In-State Media	4.48 (0.62)	5.94 (0.40)	4.51 (0.35)
With Out-of-State Media	4.44 (1.13)	5.25 (0.68)	3.74 (0.46)
Difference	0.04	0.69	<i>0.77</i>
F	0.00	0.83	4.10
n	9,356	9,356	9,225
<i>1986-1995</i>			
With In-State Media	7.23 (0.47)	6.88 (0.27)	7.28 (0.30)
With Out-of-State Media	8.77 (1.11)	7.63 (0.53)	7.47 (0.48)
Difference	1.54	-0.75	-0.19
F	1.62	1.59	0.16
n	11,107	11,107	10,822
Bold = significant at the 0.01 level <i>Italics</i> = significant at the 0.1 level			

Table A.4: OLS Estimates of Incumbency Advantage in Different Media Environments			
	All Data	Non-Pres. Election Year	Pres. Election Year
<i>1956-1965</i>			
With In-State Media	3.18 (0.11)	2.71 (0.19)	4.14 (0.17)
With Out-of-State Media	3.38 (0.23)	3.62 (0.44)	3.94 (0.31)
Difference	-0.20	<i>-0.91</i>	0.20
F	0.66	3.61	0.32
n	9,109	3,722	5,387
<i>1966-1975</i>			
With In-State Media	4.85 (0.14)	4.59 (0.16)	6.94 (0.35)
With Out-of-State Media	4.00 (0.30)	3.42 (0.41)	4.54 (0.71)
Difference	-0.85	1.17	2.40
F	6.89	7.21	9.66
n	9,751	6,406	3,345
<i>1976-1985</i>			
With In-State Media	5.77 (0.13)	4.22 (0.17)	9.10 (0.26)
With Out-of-State Media	5.48 (0.31)	5.41 (0.54)	7.09 (0.60)
Difference	0.28	<i>-1.19</i>	2.01
F	0.72	4.52	9.78
n	9,358	5,038	4,320
<i>1986-1995</i>			
With In-State Media	7.39 (0.12)	6.88 (0.13)	6.95 (0.44)
With Out-of-State Media	7.36 (0.29)	7.96 (0.36)	5.38 (0.80)
Difference	0.03	-1.08	<i>1.57</i>
F	0.01	8.08	2.93
n	11,110	8,094	3,016
Bold = significant at the 0.01 level <i>Italics</i> = significant at the 0.1 level			

Table A.5: OLS Estimates of Incumbency Advantage by TV Spending Per Capita for 1970 & 1972				
	Least Expensive Tercile	Middle Tercile	Most Expensive Tercile	All Data
With In-State Media	12.04 (0.73)	3.64 (2.37)	8.09 (1.30)	5.81 (0.23)
With Out-of-State Media	<i>15.60</i> (6.92)	<i>8.15</i> (3.81)	10.47 (3.17)	5.79 (0.89)
Difference	-3.56	<i>-4.51</i>	-2.38	0.02
F	0.26	2.86	0.50	0.00
n	1,296	1,295	1,201	3,870
Bold = significant at the 0.01 level <i>Italics</i> = significant at the 0.1 level				

Table A.6: OLS Estimates of Incumbency Advantage By Competitiveness of Race, 1956-1995					
	Competitiveness Category				
	Low	Medium	High	All	
<i>1956-1965</i>					
With In-State Media	-0.65 (0.21)	3.75 (0.22)	3.11 (0.70)	3.15 (0.12)	
With Out-of-State Media	<i>-0.65</i> (0.36)	4.80 (0.51)	2.27 (2.06)	3.50 (0.24)	
Difference	0.01	<i>-1.05</i>	1.05	-0.35	
F	0.00	4.13	0.15	1.79	
n	2,216	3,003	2,961	8,180	
<i>1966-1975</i>					
With In-State Media	2.55 (0.57)	2.21 (0.23)	7.26 (0.76)	4.30 (0.14)	
With Out-of-State Media	1.58 (1.42)	3.39 (0.52)	5.78 (0.93)	3.81 (0.31)	
Difference	0.97	<i>-1.18</i>	<i>1.48</i>	0.49	
F	0.43	4.48	4.01	2.17	
n	2,026	4,115	1,696	7,837	
	Low	Med 1	Med 2	High	All
<i>1976-1985</i>					
With In-State Media	2.30 (0.85)	3.13 (0.52)	4.97 (0.66)	0.12 (0.94)	5.31 (0.16)
With Out-of-State Media	1.46 (1.26)	2.68 (0.75)	2.73 (1.60)	6.09 (2.49)	5.60 (0.36)
Difference	0.84	0.45	-2.24	<i>-5.97</i>	-0.29
F	0.61	0.42	1.77	4.81	0.62
n	1,154	2,489	2,187	1,587	7,417
<i>1986-1995</i>					
With In-State Media		2.93 (0.49)	5.82 (0.14)	22.96 (1.86)	7.76 (0.21)
With Out-of-State Media	Not Enough Data	3.25 (0.63)	8.37 (0.43)	21.73 (1.10)	5.66 (0.54)
Difference		-0.32	-2.55	1.23	2.10
F		0.19	0.36	0.67	13.39
n		1,907	1,173	1,353	4,799
Bold = significant at the 0.01 level <i>Italics</i> = significant at the 0.1 level					