Inside the Incumbency Factor's "Black Box"
The Source of Electoral Advantage on the Local Level

By: Sean Planchard

April 14th, 2011

Thesis Advisor: Professor Kenneth Bickers

Committee Members: Professor Andy Baker, Professor Jim LoPresti, and Professor Elizabeth Skewes

Senior Undergraduate Honors Thesis

Political Science Department

University of Colorado – Boulder

ABSTRACT

The literature on the "incumbency factor" and its sources in congressional politics is some of the most pervasive in political science. However, few scholars have attempted—and none have persuasively established—the significance of the incumbency factor in lower visibility elections, such as those on the local level. Within this context, my honors thesis seeks to answer two research questions: (1) *Does the incumbency factor exist on the local level?* and (2) *If so, what are its causal mechanisms*? My findings from aggregated race-level data from the Commonwealth of Virginia and over 1,000 local candidate survey responses corroborate that this "Black Box" of the local incumbency factor does, in fact, exist. Furthermore, bivariate and multivariate probit and Ordinary Least Square regressions techniques revealed that the local incumbency factor is dominantly explained by quality challenger deterrence and probably contributed to by the institutional characteristics and resources of the offices at stake, though to a much lesser extent.

Table of Contents

SECTION 1 – INTRODUCTION

1.1　Topic Proposal

The topic for this senior honors thesis is the study and assessment of the "incumbency factor" of candidates running for local elective offices, which I label the "Black Box." My study is divided into two parts. First, I hypothesize that the incumbency factor exists on the local level despite defying the arguments in the literature implying that it should not be there (justifying my choice of the "Black Box" label). Second, I attempt to "crack" the incumbency factor's Black Box by explaining its origins. This is done by testing for the influence of the causal mechanisms believed to explain the incumbency factor in higher visibility offices that should also explain the local incumbency factor.

The characteristic of my research that makes it unique is my specific focus on elections for *local* offices and the extent to which I have gathered data on these races compared to other local election studies. In general, the body of research on local level campaigns and elections is sparse. This is not to say no one has tried to answer my research questions before. Indeed, a few attempts *have* been made in the past to study the nature of the incumbency factor for city council races. However, even fewer scholars have tried to establish the incumbency factor for other types of local elective office (e.g., mayoral, school board, county commissioner, special district, etc.) and none have speculated on the importance of explaining from where it comes. In contrast to these studies, my dataset contains survey data from over 1,000 candidates competing for all types of local offices from the 2008, 2009, and 2010 election cycles in hundreds of counties/municipalities across eight states. The intentionally large scope and detail of my research design produce the variation necessary to validate my findings and judge my hypotheses.

1.2　Topic Importance

To persuasively establish the existence of the incumbency factor on the local level inserts a crucial topic for conversation, and potential rebuttal, to the current discourse on this larger subject area. This is due to the nature of the hypotheses concerning the *sources* of the incumbency factor in higher visibility congressional or state level elections where the research has dominated since the latter half of the 20th Century. Generally, incumbency scholars argue that congressional incumbents gain their electoral advantages from one, or a combination of, the following causal mechanisms: redistricting effects, institutional characteristics, fundraising advantages, and quality challenger deterrence. For example, the institutional privilege of "franking" (the ability to send mail without paying postage) available to Members of Congress allowed them to maintain contact with their constituents virtually expense-free until campaign-related mailings were illegalized. Conversely, electoral challengers had no other option than to privately finance similar mailings from their own campaign war chests.

Yet incumbents for local elective office, at least theoretically, do not have the same level of access to these conventionally argued sources, do not have them at all, or enjoy them to an unknown extent. Local candidates' electoral districts are rarely (if ever) redrawn, they have far fewer institutional privileges (if any), the total financial resources are presumably far less

compared to higher visibility elections, and it is not clear if an effective information mechanism exists that dissuades quality challengers (candidates who have held prior office) from competing against them. Thus, cracking the incumbency factor's "Black Box" on the local level is not only intriguing on its own merits, but also potentially informative of our understanding, or lack thereof, of what we think we know about the incumbency factor in higher visibility elections.

1.3   Statement of Research Questions

Based on the academic context of the local incumbency factor, the statements of my two research questions are:

(1) *Does the incumbency factor exist on the local level?* **and**

(2) *If so, what are the causal mechanisms of the local incumbency factor?*

If incumbents *do* exhibit an electoral advantage on the local level, the question to answer and explain then becomes *how is this possible given that they theoretically do not enjoy the same quality of mechanisms usually hypothesized as the sources for the incumbency factor's existence?*

1.4   Summary of Findings

(1) *Yes - The Incumbency Factor's Black Box Exists*

Yes. The evidence suggesting the incumbency factor exists on the local level is overwhelming. On the face of it, election and survey data from the Commonwealth of Virginia collected from the 2009 off-year election and the 2010 midterm election aggregated into a race-level unit of analysis show that probability of an incumbent winning is dominantly predicted by whether an incumbent is in the race. This trend holds true for both the single-seat races and multi-seat races that occurred in Virginia over this time period.

The existence of the incumbency factor on the local level is only further confirmed by the analysis of individual candidate data collected across a wide range of races for different types of local offices from eight states over the three-year period of 2008-2010. Bivariate probit and bivariate regression analyses of these data show incumbency to be decisively predictive in terms of the probability of winning and in incumbent candidates' expected share of the final percentage vote. Findings from both models remain consistently significant and predictive of electoral success to at the 99.9% confidence level.

(2) *Cracking the Black Box: Quality Challenger Deterrence and Institutional Characteristics*

The three potentially tenable sources of the local incumbency factor were each tested at the local level. Institutional characteristics and fundraising advantages were each interacted with incumbency as control variables in multivariate probit and multivariate regression analysis of the survey candidate-level data. Quality challenger deterrence was assessed by regressing the relationship between the presence of an incumbent in the race and the number of candidates competing for that office.

The results from these tests showed that quality challenger deterrence is statistically significant at the 99.9% confidence level and strongly linked to the local incumbency factor. Fundraising advantages, on the other hand, are not persuasively linked to the local incumbency factor. And it was found that incumbent candidates are not statistically stronger fundraisers compared to their competitors. The interaction between institutional characteristics and incumbency did exhibit significance in one of the models, and is probably linked to the local incumbency factor, though to a lesser extent than the quality challenger deterrence mechanism.

SECTION 2 – LITERATURE REVIEW

2.1   Literature Preview

The three overarching fields of study relevant to my argument are (1) the electoral influence of the incumbency factor (2) the causal mechanisms underlying the incumbency factor and (3) the study of local level elections. Generally stated, the literature on the first of these fields – the existence of the incumbency factor – dates back to the early 1960s and is thorough, well researched, and persuasive for congressional and state legislative elections. It is no surprise then that the bodies of work by scholars to test, estimate, and explain its causal mechanisms are similarly pervasive and convincing. Lying at the opposite end of this spectrum is the research focusing on the local level, where a considerable gap exists in terms of the quality and quantity of the currently published literature. This can be explained by the prohibitive nature the nuances and intricacies that local elections and election outcome reporting present to the research designs of potentially interested scholars. From the sheer volume of candidates and races available to study to the at times questionable reliability/availability of election outcome reporting, there are many hurdles to overcome. Despite these challenges though, some relevant studies do exist that relate to my topic area.

The sections that follow address each of these fields sequentially by summarizing the state of the literature at this point in time.

2.2   The Electoral Influence of the Incumbency Factor

As Gary Jacobson writes in his seminal work on Congress "The Politics of Congressional Elections," the "electoral advantage enjoyed by incumbents, at least as measured by electoral margins, increased so notably after the mid-1960s that it became the main focus of congressional electoral research for the next quarter century" (Jacobson, 2009). Based on this, it comes as no surprise that the body of research on the incumbency factor is formidable. To be sure, when the data are overlaid against time, the reelection rates of incumbents from both the U.S. House of Representatives and U.S. Senate are not only high, but have been steadily increasing since the 1940s (Jacobson, 2009). Furthermore, it has been shown that congressional incumbents are winning their races more convincingly, as shown by the fact that the percentage winning with more than 60% of the vote has been increasing over this time period as well (Jacobson, 2009). The strength of the evidence in support of the incumbency factor at the congressional level consequently invited inquiry to establish its existence in other types of races and the incumbency factor has been similarly substantiated in presidential (Weisberg, 2002) and state legislative elections as well (Carey, Niemi, & Powel, 2000).

Incumbency factor literature does not utilize a single, consistent measure or index to estimate the degree of its effect on election outcomes. Responding to this point, Jacobson writes that "all the indices tell the same basic story," though with varying degrees of elegance (2009). For example, Jacobson identifies the incumbency factor in a very basic fashion by plotting the dramatic increase of the average vote share for House incumbent candidates from the 1940's to the year 2000. But research has trended towards the more advanced comparison of the value (in terms of vote percentage) gained by incumbents versus their non-incumbent competitors in contested

races (Jacobson, 2009). The distance between the vote shares for those two candidates equates to the numeric value of the electoral incumbency factor. In 1990, authors Bruce Cain, John Ferejohn, and Morris Fiorina coined a new method and name for analyzing the electoral advantage for incumbents. They called their measure "The Personal Vote" – calculating the advantage attributable to incumbency status as the vote percentage earned by the incumbent over the "party line" in the electoral district (Cain, Ferejohn, & Fiorina, 1990).

Today, the two most frequently used measures that capture this concept are the "*slurge"* and "Gelman and King" indices. The *slurge* index averages a candidate's "sophomore surge" (the gain in vote share in the sophomore election over the first election), and his or her "retirement slump" (the drop in party vote from the previous election before the incumbent departed the office) (Brady, Gaines, & Rivers, 1994). More elegantly, Gelman and King's index regresses the Democratic vote share in the previous election, the party holding the seat, and incumbency to compute the predicted value of the incumbency factor for a given candidate (Gelman & King, p.1142-1164).

Of course, there are critiques and contrary opinions to the strength and expansiveness of the findings of traditional incumbency scholars (Collie, 1981). But rebuttals such as these merely challenge the extent of the incumbency factor, not whether it exists. For higher visibility congressional races, there is *no* debate whether incumbents enjoy an electoral advantage.

In light of the demonstrable strength of the incumbency factor, many scholars have turned their attention towards its theoretical foundations and causal mechanisms to answer the question: from where does it come?

2.3   Causal Mechanisms of the Incumbency Factor

The schools of thought regarding the sources of the incumbency factor that individually or in combination create the incumbency factor can be neatly organized into the following four causal mechanisms:

1. Redistricting Effects
2. Institutional Characteristics and Resources
3. Fundraising Advantages and
4. Quality Challenger Deterrence

The arguments made in the literature that favor these mechanisms are by far the most pervasive, as well as the most persuasive, explanations behind the incumbency factor for higher visibility elections. With this in mind, each mechanism is discussed individually below.

1) *Redistricting Effects*

The school of thought emphasizing the role of redistricting effects on the incumbency factor makes the case for the importance of "Vanishing Marginals."[1] This phrase refers to the diminishing number of legitimately competitive districts observed in races for seats in the U.S. House of Representatives over time. This trend is due mostly to the reapportionment tactics employed by both parties. As both Republicans and Democrats attempt to draw the boundaries to

---

[1] "Vanishing Marginals" is also used interchangeably with the phrase "Diminishing Marginals" in the literature.

pack critical majorities of their members into their electoral districts, it follows that incumbents that share party membership with that state's legislature are more likely to win reelection (Fiorina, 1977; Cain B. E., 1985).[2] It should be noted that dual causality could be at work between the strength of the incumbency factor and vanishing marginal districts due to a lurking, positive feedback loop that could reinforce each factor's effect on the other (Fiorina, 1977). That point aside, the argument has unquestionably been made that incumbent candidates benefit greatly from gerrymandering when their electoral districts are subject to redistricting in congressional and state legislative races (Lyons & Galderisi, 1995; Berry, Berkman, & Schneiderman, 2000). However, because not all electoral districts change, the incumbency factor cannot be explained by redistricting alone.

2) *Institutional Characteristics and Resources*

Perhaps somewhat obviously, scholars such as Cain, Ferejohn, and Fiorina point out that incumbents should benefit from the institutional luxuries of their station in the first place (1990). Does it not make sense that candidates should receive some sort of electoral award from their constituents in return for the services provided to them for at least the term prior to the election? The answer to that question is an emphatic "yes;" part of the "personal vote" gained by incumbents is attributable to their position in office (Cain, Ferejohn, & Fiorina, 1990).

It follows that the higher the *quality* of constituency service, the stronger the electoral award for incumbents should be as well (Cain, Ferejohn, & Fiorina, 1984). A comparative study between U.S. House Representatives and British Members of Parliament showed this effect to be accurate for both types of legislatures but especially strong in the U.S. due to American citizens' higher expectations of helpfulness from their representatives. This research captures the importance of the *de jure* constituency service component of the institutional electoral advantage possessed by incumbents.

There are privileges and resources that provide *de facto* advantages to incumbents as well. Jacobson highlights that Members of Congress possess the flexibility to claim a "solid piece of legislative turf" from which members can maximize pork barrel spending for their district as well as "franking privileges, staff, salary, travel, office, and communication allowances" (conservatively estimated to be worth $1 million per Congressman) to support their reelection campaigns (2009). Bickers and Stein have documented the significant relationship between "bringing home the bacon," credit claiming for doing so, and incumbent electoral success at the congressional level related to pork barrel spending (1996).

Taken together, it is no surprise that the *de jure* power to provide service to constituents and the *de facto* professional resources incumbents inherit from their office lend themselves to the existence of the incumbency factor in higher level elections.

3) *Fundraising Advantages*

Incumbents competing for higher visibility offices generally have an easier time raising campaign funds than their competitors. Already established as a "proven commodity" so to speak, incumbents have a more direct line of access to their party's political machine and

---

[2] An important caveat to take note of: candidates for the U.S. Senate do not face the issue of redistricting, so the literature on vanishing marginals does not apply to their electoral incumbency advantage.

fundraising resources. The same psychology applies to individual donors as well. As these donors run these risk-estimates through their personal preference models, incumbents benefit from their experience in office within the voter's psyche to attract larger and more frequent donations (Jacobson, 2009). This pattern also justifies why those non-incumbents that *are* successful fundraisers relative to their incumbent opponents present stronger-than-usual challenges to the current office holder. The value – in terms of vote percentage – per dollar for challengers that are exceptional fundraisers is higher compared to incumbents (Gerber, 1998; Jacobson 1978). Needless to say, cases such as these are clearly the exception and not the norm. The status quo for higher level congressional and state legislative elections presents a strong, positive correlation between being the incumbent and raising campaign finance funding levels.

4) *Quality Challenger Deterrence*
The idea that "quality challengers" (challengers who have held prior office) are personally deterred from challenging incumbents or are actively preempted from doing so by incumbents themselves is also believed to explain the incumbency factor. Quality challengers are strengthened by their previous campaign experience, name recognition, and their presumed ability to fundraise better than non-quality challengers. The deterrence mechanism is motivated from two sides, that of the challenger and that of the incumbent candidate. On the challenger side, the argument that quality challengers make stronger probability estimates of victory – evidence of their strategic decision-making – before entering a race has been made convincingly by Bickers, Calvert, and Wilson (2008). Because these candidates are also likely aware of the incumbency factor, the risk to quality challengers of losing their current office and/or being forced to exit politics for a period of time frequently appear to outweigh the benefits of attempting to unseat an incumbent even when conditions appear favorable. Hogan's research confirms this on the on the state legislative level, showing that quality challengers appear to be deterred even when incumbents tended to vote against their political base (2008).

On the incumbent side, much work is done by current office-holders themselves in order to actively prevent quality challengers from competing against them. For example, Krasno & Green argue that congressional incumbents for the House of Representatives successfully preempt quality challengers from competing against them by fundraising early and "trouncing" their weak opponents in order to purport "an air of invincibility" (1988). Together, incumbents' actions combined with quality challengers' own motivations, strategies, and desires to continue holding office induce the final hypothesized source of the incumbency factor from quality challenger deterrence.

2.4   The Local Incumbency Factor
The previous sub-sections have addressed the incumbency literature with regard to federal and state level elections. The conversation must now turn to the local level and the importance of the incumbency factor there.

A fortuitous symposium was published in the January 2011 edition of the *Political Science* publication titled "The Study of Local Elections" because it offered readers a sweeping update of the current state and substance of the scholarly exploration of the local level. Though, as the editors Marschall, Shah, & Ruhil state clearly in their introduction, "the truth, however, is that this area of inquiry is relatively unexplored. In fact, to say that field of study on local elections

exists would be a bit of an overstatement" (2011). The authors also make clear that the importance of expanding the scholarly inquiry into the 89,476 local governments (which represent 99.9% of all enumerated governments in the U.S. as of 2007) and the roughly half a million locally elected officials that represent them <u>cannot</u> go understated (Marschall, Shah, & Ruhil, 2011). And it is against this backdrop that they detail the limited, yet important, first steps that have been made to research local elections in general.

The earliest evidence of an academic attempt that even suggests the importance of incumbency on the local level is mentioned almost as an aside in a scholarly book by Kenneth Prewitt called <u>The Recruitment of Political Leaders: A Study of Citizen-Politicians</u>. Published just over 40 years ago, he briefly hypothesized that "the single most important factor in predicting candidates' vote share in city council elections is incumbency" (Prewitt, 1970).

It was this hypothesis that formed the theoretical foundation for Timothy Krebs to expand upon in much further detail in his study of city council elections in Chicago from 1979-1995. From a dataset containing approximately 600 observations obtained from this near two-decade span, regression analysis revealed incumbency (along with the candidate's party support, campaign spending, and level of newspaper endorsements) to be a highly significant factor in predicting contestants final vote share (Krebs, 1998). Despite limiting the scope of his study to strictly city council elections, the study by Krebs is highly relevant to my research because it provides a historical precedent for my own study's first research question.

Scholarly precedence probing into my second research question, on the other hand, simply appears to have not yet been written. As far as can be found from the current pool of literature on local level elections, no attempts have been made to explain the origins of the incumbency factor Krebs identified previously. Additionally, the only causal mechanism of the incumbency factor addressed even partially discuss campaign finance and the need "for further research… to fully explore the extent to which raising funds is necessary for electoral success" (Adams, 2011). Other than this call for further research on the electoral effects of local campaign finance, the causal mechanisms of a local incumbency factor remain relatively unexplored whatsoever.

Despite the clear gap in the potential study of the local incumbency factor since Krebs' study of Chicago's city council, two contemporary studies springing from the University of Colorado's Local Government Elections Project do reference the importance of incumbency as a control variable in their analyses. In 2008, Dorey's paper on candidates and canvassing effects for Colorado county commissioner races showed incumbency as one of only two determinant variables significant in predicting electoral outcomes. The other significant variable was whether a candidate shared party membership with the county's plurality party (Dorey, 2008). Bickers, Calvert, and Wilson subsequently improved upon the variation of Dorey's study and expanded his dataset to include data from the 2009 election cycle. Yet again, incumbency proved to be a crucial control variable for their analysis of the factors that explain "first wins" for candidates that have never held office before.

2.5   Scholarly Impact of Cracking the Black Box
Against the scholarly context described in the previous subsections, the importance of cracking the local incumbency factor's Black Box reveals itself. On its own, persuasively establishing the

existence of the local incumbency factor would offer a unique and contemporary contribution to the greater incumbency literature and the study of local elections. But the true substance of my study comes from speculating on which potential legs the Black Box stands. Based on the literature, the following intermediate conclusions help shape my research hypotheses.

First, the local incumbency factor must be established across a wide and varied spectrum of races, states, and candidates to warrant explaining from where it comes.

Second, we know that the traditionally hypothesized sources of the incumbency factor do not exist (redistricting effects), exist to a smaller extent (institutional characteristics & fundraising advantages) or exist to an unknown extent (quality challenger deterrence) in local level elections. Thus, whatever *is* found to be significant in explaining the local incumbency factor will have consequences for our understanding of the incumbency factor at higher levels of elective office. Either our understanding of the latter is incomplete, or our discovery of the former presents a different animal of incumbency advantage in and of itself. This will naturally lead to further questions of the incumbency factor on both levels and prompt further research into this subject area.

Following this line of thinking, I now turn to the statements of my research hypotheses.

SECTION 3 – HYPOTHESES

3.1 Research Question #1 – Statement of Hypotheses

As covered in the previous section, the larger body of research on the incumbency factor and preliminary explorations into the local level suggest that it should be observable in local elections as well. The work by Prewitt, Krebs, and Dorey in particular imply that the local incumbency factor not only exists, but also is statistically significant in predicting candidates' electoral success (at least for city council candidates in Chicago and county commissioner candidates in Colorado). The emergence of incumbency as a significant control variable in Bickers et. al's studies also suggests the existence of the "Black Box."

The aim of my study was to improve upon these scholarly implications and hints of the local incumbency factor and *fully* establish the extent to which it exists. To accomplish this, I constructed tests to analyze the electoral influence of incumbency by testing for it by analyzing two units of analysis: (1) the individual race-level and (2) the individual candidate level.

For data analyzing individual elections, I hypothesized that:

> In single-member districts with only one winner,
>
> *H_1: If there is an incumbent in the race, then the incumbent is more likely to win than her competitor(s).*
> Independent Variable: Presence of incumbent in the race
> Dependent Variable: Presence of incumbent winner
>
> In multi-member districts with more than winner,
>
> *H_2: If there is <u>at least</u> one incumbent in the race, then <u>at least</u> one incumbent should win one of the available seats.*
> Independent Variable: Presence of at least one incumbent in the race
> Dependent Variable: Presence of at least one incumbent winner

Similarly, for the data collected from my surveying rounds of local candidates running for office in competitive elections, my hypotheses were:

> *H_3: If the candidate is the incumbent, then she is more likely than her competitor(s) to win.*
> Independent Variable=Incumbency
> Dependent Variable=Winner
>
> *H_4: If the candidate is the incumbent, then he will be more likely to earn a larger percentage of the electoral vote compared to his competitor(s).*
> Independent Variable=Incumbency
> Dependent Variable=Percent of electoral vote

Clearly, I expected the local incumbency factor to play a significant role in the electoral dynamics at the local level. This expectation formed the foundation for the hypotheses I sought to answer in order to explain from where it comes.

3.2   Research Question #2 – Statement of Hypotheses

All of my research hypotheses regarding my second research question were written under the assumption that incumbency would prove statistically significant on the local level. After surveying the appropriate literature, the trick lay in how to operationalize, estimate, and test the three viable causal mechanisms—institutional characteristics and resources; fundraising advantages; and quality challenger deterrence—that could plausibly be explained as its sources.[3] Under the guidance of my research adviser, these hypotheses were fashioned primarily from my intuition and interpretation of how the broader incumbency literature *should* apply at the local level. Whether or not the story told from the data confirmed our expectations was inconsequential – what was important to our puzzle was ascertaining which legs (if any) were shared between those that propped up the Black Box and those that explained the incumbency factor in higher-level electoral contests.

Institutional Characteristics and Resources

To test for the importance of institutional characteristics and resources, the survey instrument included a question asking respondents to state the monetary compensation levels of the office. From this, the inference can be made that the higher compensation of the office, the stronger the "professionalism" and electoral privileges the position at stake can be assumed to have as well. While this is an imperfect estimator of the institutional characteristics and resources available to local incumbents in their campaigns, it is a defensible one. Thus, following the logic of the literature, I hypothesized that:

> *H_5: If the candidate is the incumbent, then the interaction of incumbency with measures of the institutional characteristics of the office will increase her incumbency advantage in terms of her probability of victory and her expected share of the electoral vote.*
> Independent Variable 1: Incumbency
> Independent Variable 2: Professionalism
> Interaction Term: Incumbency x Professionalism
> Dependent Variables: Win and Percent of Electoral Vote

Fundraising Advantages

According to the literature, an observable advantage in fundraising success should correlate with incumbency as well as electoral success. However, based on the lack of significance fundraising in the similar explorations of the local level by Bickers et. al and Dorey, I did not expect funding to be a significant variable in determining election outcomes. I did expect, however, for local level incumbents to demonstrate a significant advantage at raising money compared to their opponents. I conjectured that this fact could indirectly be linked to the challenger deterrence

---

[3] The causal mechanism of redistricting effects was excluded as a plausible explanation for the local incumbency factor due to the fact that gerrymandering simply does not occur in the types of electoral districts candidates were competing in.

mechanism. Phrased more specifically, my hypothesis regarding local incumbent fundraising advantages was strictly:

> H_6: *If a candidate is the incumbent, then he should be a stronger fundraiser relative to her opponents.*
> Independent Variable: Incumbency
> Dependent Variable: Funds Raised
>
> *(Corollary to H_6: I do next expect total funds raised to be significant to the incumbency factor or in predicting electoral outcomes)*

Quality Challenger Deterrence

Because my research design targeted only those candidates who were competing in competitive races, I could not run regressions assessing the effects of incumbents at driving away quality challengers from my survey data. However, by regressing the influence of incumbency on the number of candidates competing in each race (with individual races being used as the unit of analysis here), we can ascertain how well incumbents "drive away" competition in general.

My expectation of this component of the local incumbency factor preempted my belief that this was a crucial aspect of these candidates' advantage on the local level. Surely challengers must realize that unseating a candidate presents a formidable task. And, equally important, it is at least as plausible that incumbents do their best to broadcast their current position of power and trounce any potential competition early on in the campaign. From this perspective I hypothesized that:

> H_7: *If there is an incumbent in the race, then the total number of candidates competing in the race is statistically likely to be lower.*
> Independent Variable: Presence of incumbent in the race
> Dependent Variable: Number of candidates in the race

To quantitatively test my theoretical hypotheses, I used the STATA statistical software package.

SECTION 4 – RESEARCH DESIGN

4.1   The Local Government Elections Project

The data I collected for my study was obtained from the Local Government Elections Project (LGEP) at CU – Boulder, spearheaded by Professor Ken Bickers. Over the elections taking place from 2008–2010, the LGEP compiled survey data from candidates competing for local elective office across eight states. I played an active role on this research team as an undergraduate research assistant. I worked very closely with Professor Bickers to aggregate and analyze the data to broaden and deepen our understanding of electoral dynamics on the local level.

The original, 2008 version of the survey instrument was delivered via traditional mailing to 195 candidates competing in county commission races in Colorado. Of these, 93 were returned equating to a response rate of 47.7 percent. The survey instrument was then tweaked and refined to clarify potentially confusing language that revealed itself in some of the questions from the responses. Additional questions were also designed and implemented into the 2009 version of the instrument to capture other desirable data. This process was repeated for the 2010 version of the survey instrument based on the 2009 survey round's response set. Though the core structure of the survey remained largely unchanged, the differences in the separate iterations' language and unique questions are identified in the dataset's accompanying codebook.

Surveys were delivered in 2009 via traditional mail and electronically through the web-based survey product Survey Monkey to candidates competing in mayoral, city council, county executive, county legislative, school board, and special district races. Candidates in the states of Florida, Iowa, Pennsylvania, Virginia, and Washington as well as the metropolitan area of Atlanta in Georgia received the survey. The response rate for this 2009 iteration was 31.1% between the mail and online distributions and the addition of another 496 analyzable cases.

In 2010, exactly 1,287 candidates were surveyed from California, Colorado, Florida, Virginia and Washington in the third and final survey round and were distributed by e-mail by using the significantly more powerful online survey tools available from Qualtrics Survey Software. This round of surveying added a further 416 analyzable cases that could be successfully paired with election results data.[4] ***The aggregation of the data from all three survey rounds produces a final dataset with survey responses from 1,004 candidates and a final response rate of 32.6 percent.***

After each election, election results were gathered for all the local races in the counties we surveyed. Sorting on unique mailing or email code identifiers attached to our respondents' survey information, we were able to pair the election results data to our respondents' answers. This step in the research process was quite time consuming but absolutely critical to take in order for our research team to conduct analyses.

---

[4] There were 384 responses that answered every question on the survey. The remaining 32 candidates that replied only answered some of the questions but enough that their data could still be used.

In every iteration of the survey, candidates were always asked the questions early on: "Are you the incumbent?" and "If not, is there an incumbent in the race?" as well as a variety of questions probing candidate characteristics, canvassing strategies, and fundraising levels among others.

Compared to other research of local elections, there is no doubt that my dataset (and subsequent analysis) is enriched by the size of my response set and the variation inherent in the range and scope of the offices and states we surveyed. Furthermore, the progressive growth in detail of the survey instrument over this three-year period allowed me to descriptively operationalize the local incumbency factor and its sources from its equally rich set of questions. The combination of these factors helps to solidify the validity and generalizability of my findings regarding the location and explanation of the local incumbency factor's Black Box.

4.2   Research Question #1 – Operationalizing the Local Incumbency Factor

Before the Black Box could be cracked, it first had to be "found" by establishing that the local incumbency factor existed in the first place. To accomplish this, my research design progressively drills down on the local incumbency factor, testing it at deeper and deeper levels with each statistical test.

The Local Incumbency Factor in Local Virginia Races: Hypotheses One and Two

My first two models designed to locate the local incumbency factor come from aggregating the election results data solely from the Commonwealth of Virginia and correspond directly to *hypothesis one* and *hypothesis two*.

Virginia is unique because its election reporting websites provide information on candidate incumbency and partisanship that other states simply do not. Another distinctive feature of Virginia elections is that they are the only ones that display incumbency on their election ballots for all the types of races we surveyed (in the states we surveyed). Based on this, if the local incumbency factor should appear anywhere, then it should at least be found in Virginia. Therefore data were aggregated from candidates' responses into a larger unit of analysis describing individual races—including those with only one candidate—in order to analyze the gamut of local election races that took place there in 2009 and 2010 instead of the smaller set of races from which we received survey responses.

For single seat, first-past-the post elections, data were coded for the presence of an incumbent in each race and whether the incumbent won. For multi-seat elections, dummy variables for whether there was <u>at least</u> one incumbent in the race and whether <u>at least</u> one incumbent won were coded as well. Simple, bivariate probit models were then created for both types of races due to their models' dichotomous dependent variables.

Model One: Single-Seat Elections in Virginia
Incumbent Winner (0 or 1) = α + ß₁Incumbent in the Race + ε

- Model One is a bivariate probit model that corresponds to *hypothesis one*. The model tests for the local incumbency factor in Virginia's single member, first-past-the-post elections with only one winner. Of the 508 races in Virginia in 2009 and 2010, 461 (90.7%) were elections of this type.

Model Two: Multi-Seat Elections in Virginia
At Least One Incumbent Winner (0 or 1) = α + ß₁At Least One Incumbent in the Race + ε

- Model Two is also a bivariate probit model and corresponds to *hypothesis two*. The model tests for the local incumbency factor in Virginia's multi-seat elections with more than one winner per race. There were a total of 44 (8.7%) of these types of races together from 2009 and 2010.

The Local Incumbency Factor for Individual Candidates: Hypotheses Three and Four
The third and fourth models drill down a level further to describe the local incumbency factor's impact on incumbents' likelihood of winning and their advantage in terms of their share of the final vote. The models to test these hypotheses are relatively simple and utilize bivariate probit and bivariate Ordinary Least Square (OLS) regression techniques to elucidate the local incumbency factor. While those respondents competing in races without an incumbent were excluded, the sample size remained very large for both models with a *n* of 659 for Model Three and 658 for Model Four respectively.[5]

Model Three: Incumbent Candidate's Probability of Winning
Candidate Win (0 or 1) = α + ß₁Incumbent + ε

- Model Three is a bivariate probit model and corresponds to *hypothesis three*. The model tests whether being the incumbent affects a candidate's probability of winning, describing another layer of the local incumbency factor.

Model Four: Incumbent Candidate's Percentage Vote Advantage
Electoral Vote Percentage= α + ß₁Incumbent + ε

- Model Four is a bivariate regression model and corresponds to *hypothesis four*. The model tests the predicted advantage in terms of the candidate's final percentage share of the electoral vote based on their incumbency. The standard errors reported are standardized with robust regression analysis to account for any statistical variance among the control variables.

Taken together, my findings from these four models provided more than ample evidence of the local incumbency factor, and concurrently the Black Box, to warrant further tests to explain its sources and answer my second research question.

4.3   Research Question #2 – Operationalizing Causal Mechanisms
The first two of the three tenable causal mechanisms for the local incumbency factor of institutional characteristics and fundraising advantages are controlled for in my multivariate

---

[5] Note: The astute reader may wonder why the sample size drops from 1,000 observations to 659 and 658 in both of these models. This decline is explained by the fact that the analyses conducted in these models only addresses those candidates that indicated there was an incumbent in the race in which they were competing. The inference being that only 659 candidates from our three survey rounds competed in races where there wan an incumbent present.

models. Model Five and Model Six interact these mechanisms with incumbency to ascertain their effects.

The third mechanism, quality challenger deterrence, required a return to the aggregation of race-level data in Virginia to fully determine what effect incumbents had at driving away potential competition. This separate approach is necessitated by the fact that quality challenger deterrence likely disqualified contests and candidates from meeting our survey criteria as we only surveyed candidates in competitive elections. As such, the separate bivariate regression of Model Seven between the presence of an incumbent in a race and the number of challengers in the contest is included to exhibit this mechanism's strength.

Operationalizing Institutional Characteristics and Fundraising Advantages

The causal mechanisms of institutional characteristics and fundraising advantages are operationalized in the multivariate probit and multivariate regression models of Model Five and Model Six respectively. These larger models make special use of the data collected from the 2010 surveying round. The 2010 version of the survey instrument asked candidates: "In approximate terms, what is the annual salary, stipend, or other financial compensation for the position for which you are running?" to assess the compensation level of the office at stake in their electoral contest. While somewhat of a crude estimator, candidates' answers to this question are taken as a representation of the "professionalism" of the office and, along those same lines, of its institutional strength. *Hypothesis five* is thus addressed by the interaction of the compensation variable with incumbency in Model Five and Model Six.

The fundraising advantages mechanism is captured by the interaction of the total funds raised by candidates with their incumbency status. Due to the large number of outliers found in candidates' answers to the question: "Approximately how much money, to date, including your own personal funds, have you raised to run for this office?" it was necessary to take the square root of this variable to smoothen its variation and improve the interpretability of my findings. By doing this, I could assess the influence of campaign finance on local election outcomes, though I did not expect it to be significant. To test *hypothesis six*, I included a simple bivariate regression between fundraising levels and incumbency advantages as well to illuminate any relationship between being the incumbent and raising more money. The sample size for these tests comprised a response set of approximately 240 candidates.[6] The multivariate equations of Model Five and Model Six that control for these two hypothesized causal mechanisms of incumbency are described below.

Model Five: Full Model - Probability of Winning

Candidate Win (0 or 1) = α + β_1Incumbent + β_2Compensation & Incumbent + β_3Compensation + β_4Sqrt of Funds Raised & Incumbent + β_5Sqrt of Funds Raised + ε

- Model Five is a multivariate probit model that fully tests the local incumbency factor by controlling for the causal mechanisms of institutional characteristics and fundraising

---

[6] Note: Again, the careful reader will notice the considerable decline in the sample size. For Model Five and Model Six, the decline is due to the fact that the compensation question was only asked on the 2010 iteration of the survey. Thus, the response set is limited to those candidates that answered the compensation and fundraising questions, as well as indicated that there was an incumbent in the race in which they were competing.

advantages on the candidate's probability of victory. *Hypothesis five* (the importance of institutional characteristics) and the expected lack of importance of fundraising advantages correspond to this model.

Model Six: Full Model – Percent Vote Advantage
Electoral Vote Percentage = α + ß$_1$Incumbent + ß$_2$Compensation & Incumbent + ß$_3$Compensation + ß$_4$Sqrt of Funds Raised & Incumbent + ß$_5$Sqrt of Funds Raised + ε

- Model Six is a multivariate regression model predicting the incumbents expected electoral advantage in terms of their share of the final vote percentage, but including the controls for institutional characteristics and fundraising advantages. This model standardizes the standard errors reported by using robust regression analysis and provides another level of detail to *hypothesis five* and *hypothesis six*.

Operationalizing Quality Challenger Deterrence
Returning to the aggregated race-level data from the Commonwealth of Virginia, *hypothesis seven* is tested by regressing the effect the presence of an incumbent in the race has on the total number of candidates competing in it. Any value for the coefficient reported under 2.0 statistically translates into the finding that incumbent candidates are statistically less likely to face an opponent at all compared to their non-incumbent counterparts. While it's impossible to prove a counter-factual, and since it can never *fully* be known what strategic factor prevented a potential quality challenger from trying to unseat an incumbent, the strength of this finding for the set "missing challengers" must surely include at least some important percentage of potential quality challengers who were deterred from running. Model Seven corresponds to this line of thinking.

Model Seven: Incumbents' Effect on the Number of Challengers in the Race
Number of Challengers = α + ß$_1$Incumbent in the Race + ε

- Model Seven is a simple bivariate regression corresponding to *hypothesis seven*. The model tests whether the number of challengers is statistically affected by the presence of an incumbent in the race. The full dataset of the 506 observations of Virginia races was analyzable for this test.

When taken together, these seven models effectively demonstrate the existence of the local incumbency factor, tease out the roots of its sources, and affect our understanding of the similarities and differences between elections for local office and elections for higher visibility positions. I now turn to the discussion and analysis of my results.

SECTION 5 – ANALYSIS AND RESULTS

5.1   Locating the Black Box: Model One and Model Two

The strength of the local incumbency factor as demonstrated from the models testing the race-level data from Virginia is *remarkably* strong. So strong, in fact, is the relationship between the presence of an incumbent in the race and the probability of that incumbent winning in Model One that the probit analysis is actually not worth reporting because incumbency is interpreted as a *constant* in predicting election wins. STATA could not run the probit test because there was no way for an incumbent to win when there was no incumbent in the race. If this analysis from Model One were to be taken as representative of all local elections, the cursory (and unrealistic) takeaway would be that "incumbents always win" on the local level.

Table 5.1: Model One and Model Two Cross

Table 5.1.A - Model One: Single-Seat Elections in Virginia

	Incumbent in Race	Percentage
Incumbent Lost	10	2.91%
Incumbent Won	334	97.09%
Total	344	100.00%

Table 5.1.B - Model Two: Multi-Seat Elections in Virginia

	At Least One Incumbent	Percentage
Incumbent Lost	2	5.41%
Incumbent Won	35	94.59%
Total	37	100.00%

Of course, we know this cannot possibly be the case in reality and the cross tabulation of the 441 single-member elections with an incumbent present in the race (displayed in Table 5.1.A) reflects this. Not every incumbent won his or her race. However, the fact this was the case for only 10 of the 461 (2.91%) incumbents that competed in single-member districts in the 2009 and 2010 elections explains why the probit analysis improperly computed an impossibly strong and constant relationship between incumbency and winning.

Following the same logic, a similar issue disrupted the probit analysis designed for Model Two. The relationship between having at least one incumbent in a race and at least one incumbent winning in multi-seat elections was also interpreted as a constant. In only two cases of the 37 multi-seat elections where an at least one incumbent was present (displayed in Table 5.1.B) did all of the incumbents lose. These are impressive findings. They are also somewhat surprising. While these models corroborate my first two hypotheses, they were not expected to have such a high degree of predictive strength. While only a guess, the voting cues indicating which

candidate is the incumbent on Virginia's election ballots might offer the explanation as to why the incumbency factor appears so overwhelmingly in these analyses. Nevertheless, a deeper investigation of the local incumbency factor is certainly warranted by the startling strength of the local incumbency factor demonstrated by these first two models.

5.2 Locating the Black Box: Model Three and Model Four

Table 5.2: Model Three and Model Four

	5.2.A - Model 3 (Probit) Candidate Win		5.2.B - Model 4 (OLS) Vote Percent	
Incumbent	0.983	(9.57)***	15.09	(9.68)***
Constant	*0.366	(-5.33)***	35.18	(36.68)***
	N	659	N	658
	LR Chi^2	94.94	F(1, 656)	93.76
	Prob > Chi^2	0.0000	Prob > F	0.0000
	Pseudo R^2	0.1042	R^2	0.1274

z and t statistics in parentheses, respectively

*p<0.05, **p<0.01, ***p<0.001

Note: Standard Errors are robust

The regression output from Model Three and Model Four (displayed in Table 5.2) deliver equally striking results pertaining to the existence of the local incumbency factor at the individual candidate level. With the p-value statistics demonstrating significance at the 99.99% confidence level in both models, it is clear that incumbency is about as predictive as possible in determining the probability of victory and a distinct advantage in terms of the final vote share. My expectations for *hypothesis three* and *hypothesis* four were correct.

Zooming in on Model Three (displayed in 5.2.A), if we make use of STATA's post-estimation "predict" command we see that the probability of an incumbent winning on the local level *is slightly higher than twice as large* compared to non-incumbents. Where the predicted probability for a non-incumbent is a mere 35.14%, the probability for an incumbent candidate is a dominant 73.14 percent. While the pseudo r^2 statistic implies that we're explaining less than 10% of the variation in these races, the z-statistic's distance from 2.0 hints at the magnitude of this relationship.

Model Four (displayed in 5.2.B) exhibits an equally notable finding: incumbent candidates enjoy an impressive 15.09% advantage in voting margin. For any election, this is not only a significant advantage but also a decisive one. This finding takes on an even greater level of importance when contrasted to the *slurge* and Gelman and King indices used to estimate the percent vote advantage for congressional incumbents. From 1968-2000 the vote percent advantage for House incumbents averaged 8% and never broached 12% for any one year. In the Senate, the value of incumbency averaged 7% from 1962-1992 (Jacobson, 2009). This means that the value, in votes, of being an incumbent on the local level is worth at least twice as much as being an incumbent at the congressional level.

There is no doubt as to the answer to my first research question "*does the local incumbency factor exist?*" These findings constitute as solid a statistical argument as possible that the answer is in the affirmative. Yes – the Black Box has been located, quite persuasively, at the local level.

5.3   Cracking the Black Box: Contribution of Causal Mechanisms

In order to ascertain the extent to which the institutional characteristics and fundraising advantages mechanisms contribute to the local incumbency factor, some comparisons must be made between the simple regressions of Model Three and Model Four and fuller models that include controls for these mechanisms for a directly comparable set of respondents. This is accomplished by adding the "compensation" and "total funds" variables as controls to Model Three and Model Four and reducing the sample set to strictly the candidate responses from the 2010 survey round.[7] Then, by comparing the difference in the coefficient on the incumbency variable between the simple and full models, we can assess the extent to which each mechanism relatively contributes to the local incumbency factor. The greater the incumbency coefficient declines in the controlled models, the greater the explanatory influence of the causal mechanisms becomes.

Table 5.3.A displays the difference in the incumbency coefficient between the simple and reduced model with the candidate win as the dependent variable. Table 5.3.B displays the difference in the incumbency coefficient between the simple and reduced model with vote percent as the dependent variable.

Table 5.3.A: Candidate Win - Simple vs. Full Model Comparison

	Simple Probit Candidate Win	Controlled Probit Candidate Win
Incumbent	1.138 (6.86)***	1.164 (6.38)***
Compensation		-0.0000439 (-2.07)*
Total Funds (sqrt)		0.00213 (1.52)
Constant	-0.511 (-4.78)***	-0.519 (-3.26)**
	N 264	N 233
	LR Chi² 49.40	LR Chi² 45.63
	Prob > Chi² 0.0000	Prob > Chi² 0.0000
	Pseudo R² 0.135	Pseudo R² 0.1413

z statistics in parentheses
*p<0.05, **p<0.01, ***p<0.001

The comparison of the incumbency coefficient in Table 5.3.A is surprising as it actually *increases* from 1.138 to 1.164 between the simple and controlled models. Essentially, this output

---

[7] The sample set is reduced to strictly the 2010 respondents because this is the only iteration of the survey that inquired about the compensation level of the office at stake in the race.

suggests that neither institutional characteristics nor fundraising advantages contribute to the local incumbency factor in terms of predicting the candidate's probability of winning. However, it is notable that the compensation variable (again, representative of the institutional characteristics mechanism) is both negative and significant—implying that an inverse relationship exists between the level of compensation of the office and the probability that a candidate would win. Notably, the fundraising variable is not significant as a predictive variable to a candidate's probability of winning as shown by this comparison.

Table 5.3.B: Vote Percent - Simple vs. Full Model Comparison

	Simple OLS Vote Percent		Controlled OLS Vote Percent	
Incumbent	19.73 (8.87)***		18.13 (7.83)***	
Compensation			0.000141 (3.91)***	
Total Funds (sqrt)			-0.000579 (-0.03)	
Constant	28.80 (22.86)***		23.75 (13.93)**	
	N	272	N	240
	$F_{(1, 270)}$	78.67	$F_{(3, 236)}$	36.15
	Prob > F	0.0000	Prob > F	0.0000
	R^2	0.2371	R^2	0.3362

z statistics in parentheses
*$p<0.05$, **$p<0.01$, ***$p<0.001$
Note: Standard Errors are robust

The output from Table 5.3.B, though, tells a different story. In this comparison, the incumbency coefficient declines from 19.73 to 18.13, or just over a 1.5% decline in the expected vote share for the incumbent. While this decline in not staggeringly large, it appears that this drop in in the incumbency coefficient is primarily due the importance of the institutional characteristics mechanism because the compensation variable that represents it reports significance to the 99.9% confidence level while the fundraising variable again fails to show any significance at all.

The fact that the addition of these two causal mechanisms did not drop the incumbency variable from significance nor decrease the size of its coefficient a great deal implies that neither causal mechanism is incredibly important to building the local incumbency factor. Based on the comparisons above, fundraising advantages almost certainly are not one of the Black Box's sources. However, the evidence does suggest that the institutional characteristics of the office at stake *are* significantly important to election outcomes and to the Black Box; this is an important finding. While not a terribly influential source in terms of its magnitude, institutional characteristics appear to be the first demonstrable source of incumbents' electoral advantage on the local level.

5.4   Cracking the Black Box: Model Five, Model Six, and Model Seven
The multivariate equations of Model Five and Model Six (displayed in Table 5.4) test for the influence of institutional characteristics and fundraising advantages further by interacting these mechanisms with candidates' incumbency status. The influence of incumbency persists quite strongly in these multivariate models.

Table 5.4: Model Five and Model Six

	5.4.A Model 5 (Probit) Candidate Win		5.4.B Model 6 (OLS) Vote Percent	
Incumbent	0.764	(2.54)*	15.29	(2.39)***
Interaction: Incumbent*Compensation	0.0000106	(2.29)*	-0.0000650	(-0.95)
Compensation	-0.0000106	(-2.97)**	0.000175	(3.87)***
Interaction: Incumbent*Total Funds (sqrt)	0.000111	(0.04)	0.066	(2.25)*
Total Funds (sqrt)	0.002	(097)	-0.039	(-2.25)*
Constant	-0.335	(-1.66)	25.63	(12.94)***
	N	233	N	240
	LR Chi^2	51.69	F(14, 291)	30.11
	Prob > Chi^2	0.0000	Prob > F	0.0000
	Pseudo R^2	0.1601	R^2	0.3491

z and t statistics in parentheses, respectively
*p<0.05, **p<0.01, ***p<0.001
Note: Standard Errors are robust

From the probit output of Model Five (displayed in Table 5.4.A), we see that incumbency remains significant at the 95% confidence level when controlling for these two causal mechanisms. More importantly, the interaction variable between incumbency and the compensation of the office is also significant at the 95% confidence level. This finding constitutes a preliminary, confirmatory answer to *hypothesis five*. Interestingly enough, the compensation variable is itself significant at the 99% confidence level, but the direction of the variable (indicated by its negative sign) implies that an inverse relationship exists between the compensation of the office and the probability of winning. This negative effect is only true for non-incumbent candidates though, as the positive relationship between incumbency and compensation is captured by their interaction variable.

While the value in vote percentage of incumbency remains significant at the 99.9% confidence level and remains very strong at 15.29 in the multivariate regression of Model Six (displayed in Table 5.4.B), the incumbency-compensation interaction variable notably drops from significance. The compensation variable by itself, though, jumps up to join incumbency at the 99.9% confidence level, suggesting that the institutional characteristics of the office at stake are still an important electoral dynamic to account for in local level races. Because the compensation variable does not remain consistently significant in both models, I cannot fully accept *hypothesis five* as persuasively true. However, I cannot fully reject it either. Out of four potential instances where compensation can demonstrate significance, it does so to at least the 95% confidence threshold in three of them. Clearly the professionalism of the local level offices – and thus the institutional characteristics – mechanism plays at least some predictive role in local election outcomes and explains some portion of the local incumbency factor.

In contrast, the fundraising advantages mechanism, as expected based on the comparisons conducted in subsection 5.3, remains largely insignificant. The only instance where fundraising advantages exhibit significance is by itself as a control variable in Model Six. While it is intriguing that money has a significant, negative impact on predicting a candidate's share of the

final vote, this finding is hardly defensible as evidence that the fundraising advantages mechanism is explanatory of the local incumbency factor. Indeed, the subsidiary regression used to test *hypothesis six* on the relationship between incumbency and fundraising levels failed to show significance at any reasonable confidence threshold—and thus was not worth reporting here—I was wrong in predicting that local incumbents would be stronger fundraisers. However, the evidence from Model Five and Model Six corroborate the implicit corollary to *hypothesis six* that the level of campaign funds raised are insignificant to incumbency or election outcomes.

Model Seven, corresponding accordingly with *hypothesis seven*, tests the quality challenger deterrence mechanism through bivariate regression. The two variables compared in in this model are (1) the presence of an incumbent in the race and (2) the total number of candidates competing for the office. All 508 races from the aggregated Virginia race-level dataset were analyzable for this analysis and the output is displayed below in Table 5.5.

Table 5.5: Model Seven

	Model 7 (OLS) Number of Candidates in Race
Incumbent in the race	-0.549 (-3.70)***
Constant	2.205 (16.06)***

	N	508
	F(1, 506)	93.76
	Prob > F	0.0002
	R^2	0.0365

t statistics in parentheses
*p<0.05, **p<0.01, ***p<0.001
Note: Standard Errors are robust

The results from this analysis are the strongest evidence for any of the causal mechanisms tested in this paper. From the output, we see that the presence of an incumbent in the race has a coefficient of -0.549 and is significant at the 99.9% confidence level. This is a very, very important finding. The practical application revealed from this test is that incumbents are fantastically good at deterring competition, period. The extent to which incumbents are deterring the "hidden" set of quality challengers who chose not to enter the race can only be guessed at, but presumably it is a strong proportion of the challengers we don't see squaring off against these incumbents. My prediction for *hypothesis seven* was correct.

The data from Model Seven tell a convincing story that the incumbents' ability to deter competition is a foundational component of the local incumbency factor's Black Box.

5.5   Discussion of Results

At this point, it is almost becoming repetitive to state that the Black Box of the local incumbency factor exists. That said, the importance of the evidence supporting its existence comes not simply from the fact that it is there, but the very high level of confidence with which we can report that it is. Incumbency was the crucial explanatory variable in all seven of the models and it remained

consistently significant in all of them, dropping from the 99.9% confidence level in only the multivariate probit model of Model Six. This probably only occurs because of the proportion of the incumbency factor that is explained by the institutional characteristics of the office at stake. While this is not a novel or terribly unexpected finding per se, the consistently significant performance of the incumbency factor when subjected to these varied tests frame the most persuasive argument to date on the importance of the incumbency factor in races for local office.

Furthermore, the magnitude of the local incumbency factor can only be described as immensely impressive. As mentioned, the value in voting percentage of incumbency is larger (higher than 15% in both models with vote percent as the dependent variable) on the local level than it is on the congressional level. This is some of the very first evidence that compares the institutional dynamic and understanding of the local level to broader ones and the findings are very, very powerful. This layer of the local incumbency factor *is* novel because it improves our understanding of the electoral dynamics across different levels of elections.

The more interesting component of my study, of course, was the analysis and tests designed to ascertain the local incumbency factor's sources. Admittedly, none of the estimators used to assess the causal mechanisms that could apply at the local level are perfect. But then again, estimators never are perfect and the tests designed in Model Five, Model Six, and Model Seven were the best that could possibly be constructed within the limitations of my research design.

The results from Model Five and Model Six suggest that institutional characteristics probably are a causal mechanism of the local incumbency factor—though not a terribly powerful one—and that fundraising advantages probably are not. How do these findings affect our understanding of incumbency advantage in races for higher visibility elections? The former finding is consistent with the literature for congressional elections—incumbents benefit simply by being the incumbent due to the privileges, resources, and constituency service associated with their holding office. The latter finding of the lack of influence of campaign funds in predicting electoral success is not consistent with the literature, where it is known almost as fact that incumbents for more prestigious offices consistently raise more money than their competitors and are rewarded by voters in their election outcomes. Perhaps candidates for congressional office are viewed as "better commodities" to be invested in by election donors? Or maybe local incumbents simply do not raise more money because it isn't necessary for them to do so in order to still win? Indeed, the electoral advantage for incumbents seems strong enough on its own without the presence of a convincing fundraising advantage mechanism to amplify or explain it.

Model Seven provides the strongest support for any of the mechanisms tested in this paper—showing that quality challenger deterrence not only exists on the local level, but is very, very strong. Indeed, so strong is this relationship that it's even plausible that it dilutes the potential strength of the other two mechanisms. If incumbents are so good at scaring away potential competition in the first place, how can we know to what extent they fully utilize the institutional resources of their office or their fundraising networks? This question is probably best left to be answered by other, subsequent research endeavors. At the very least though, quality challenger deterrence can be interpreted as the dominant source of the local incumbency factor from the range of tests it was subjected to.

There is also the possibility that the local incumbency factor can be explained by a separate, idiosyncratic source that applies uniquely on the local level and is not significant in higher visibility elections. Because the incumbency factor is so strong on the local level, we know that some information cue somewhere is working to condition voters to re-instate the incumbent. Is this due to a special characteristic of the types of voters who participate in local elections? Are incumbents earning key endorsements from crucial signal callers that I did not survey? Or is there another, unforeseen explanation to be speculated on? Again, these questions are probably best left to future research, but certainly are worth noting.

Overall, the stories that the data tell through my analyses provide some of the most expansive, persuasive, and influential findings to date in the study of local elections and the local incumbency factor.

SECTION 6 – CONCLUSIONS

6.1   The Black Box and its Sources

In response to my first research question, there is no longer any dispute over whether the Black Box of the local incumbency factor exists. Incumbency matters quite significantly and to a very high magnitude in local level elections.

In response to my second research question, the Black Box is definitely propped up by incumbent candidates' ability to deter quality competition. In fact, the data show that quality challenger deterrence is most likely the dominant explanatory source of the local incumbency factor. The data also reveal that the institutional characteristics and resources available to incumbents as officeholders probably are a source of the local incumbency factor as well—though not a very strong one. Additionally, local incumbents do not enjoy any significant fundraising advantage compared to their competitors and the level of funds raised is not significantly predictive of election outcomes. Therefore the local incumbency factor is not due to incumbent candidates' propensity to be stronger fundraisers because, statistically speaking, they do not raise more money compared to their competition.

6.2   Key Takeaways

The two most important takeaways from my study are the interaction of my findings on the local level with our understanding of higher visibility elections and the resulting practical implications for prospective candidates for local office and election observers.

The preponderance of the evidence asserting the existence of the local incumbency factor suggests not only that it's there, but that it is more influential in terms of its magnitude compared to races for higher level offices—particularly congressional races. However, at least two of the traditionally hypothesized sources of incumbency advantage—redistricting effects and fundraising advantages—either cannot or do not convincingly explain the local incumbency factor. This is an important because it prompts questions such as: A*re the missing sources of incumbency not as influential as we think we are? Are the sources of incumbency that are significant on the local level more influential than we once believed? Or are we simply looking at two distinct, yet interrelated types of incumbency advantage that happen to share some common ground?* Expanding upon the answers to these questions in the future could comprise some of the most interesting election research in the field for years to come.

Practically speaking, my research provides invaluable quantitative metrics to prospective candidates and current local officeholders for the dynamics of local elections. Many politicians' careers began with participation at the local level. My study informs potential candidates about the decisive role the dynamics of the incumbency factor play in obtaining local office in the first place. Similarly, for the hundreds of thousands of local politicians that currently hold office, the findings from this study are incredibly valuable to their own decision models about competing for other offices as well as descriptive of the relative position of security they now hold.

Based on my findings, it is my suggestion that prospective candidates exercise severe caution before challenging an incumbent and follow the traditional strategy of trying to enter races when an open seat becomes available. All else being equal, if they do decide to challenge an incumbent, they should do so fully aware of the 15% voting margin differential that separates them from the incumbent and their severely decreased likelihood of winning. If candidates such as these are to be successful, then the must be aware of the higher levels of resources and effort necessary to compensate for the forces at work behind the local incumbency factor.

Ironically enough, these recommendations may boost the local incumbency factor further by discouraging prospective candidates from challenging incumbents more than they already are. However, the point remains the same that the findings from this study better inform choice models for those interested in running for local elective offices and our understanding behind these decisions for those of us observing these candidates and the races they are competing in.

6.3   Potential Courses for Further Study

The study of local elections is certain to crest the rising level of interest gathering around this topic area among political science researchers. The potential datasets to be built, analyzed, and interpreted are rich in terms of volume, variation, and their value to our understanding of electoral dynamics. Furthermore, they complement our understanding of institutional rules in higher visibility offices.

As the study of the incumbency factor remained at the forefront of the congressional literature for decades, I suspect the topic will stay at the center of the local election literature in the years to come. And the persuasive strength of my findings validates my belief that it should stay there. My recommendation for the trajectory of this study is to continue to search for better estimators that can be used to judge the hypothesized sources of incumbency advantage and tease out their intricacies in even more detail. Additionally, I would stress to future scholars to continue searching for a lurking, idiosyncratic causal mechanism unique to local level elections to help explain the lopsided strength of the incumbency factor on the local level compared to higher visibility elections.

This task is, of course, challenging due to the inhibitive nature of studying local elections, but it is crucial to our prospects of improving our understanding of the incumbency factor and electoral dynamics in general.

SECTION 7 – BIBLIOGRAPHY

Adams, B. E. (2011, January). Financing Local Elections: The Impact of Institutions on Electoral Outcomes and Democratic Representation. *Political Science*, pp. 111-114.

Berry, W. D., Berkman, M. B., & Schneiderman, S. (2000). Legislative Professionalism and Incumbent Reelection: The Development of Institutional Boundaries. *The Amerian Political Science Review, 94* (4), 859-874.

Bickers, K. N., & Stein, R. M. (1996). Electoral Dynamics of the Federal Pork Barrel. *American Journal of Political Science, 40* (4), 1300-1326.

Bickers, K. N., Calvert, S. H., & Wilson, R. (2008). First Wins: Explaining Electoral Success in Local Races. *Abstract*, 1-18.

Brady, D. W., Gaines, B., & Rivers, D. (1994). The Incumency Advantage in the House and Senate: A Comparative Institutional Analysis. *Manuscript, Stanford University* .

Cain, B. E. (1985). Assessing the Partisan Effects of Redistricting. *The American Political Science Review*, *79* (2), 320-333.

Cain, B. E., Ferejohn, J. A., & Fiorina, M. P. (1984). The Constituency Service Basis of the Personal Vote for U.S. Representatives and British Members of Parliament. *The American Political Science Review*, *75* (1), 110-125.

Cain, B.E., Ferejohn, J., & Fiorina, M. (1990). *The Personal Vote: Constituency Service and Electoral Independence.* Boston, MA, United States of America: Harvard University press.

Carey, J. M., Niemi, R. G., & Powel, L. W. (2000). Incumbency and the Proability of Reelection in State Legislative Elections. *The Journal of Politics*, *62* (3), 671-700.

Cox, G. W., & Katz, J. (1996). Why Did the Incumbency Advantage in U.S. House Elections Grow? *Journal of Politics*, *40*, 478-497.

Cover, A. D., & Mayhew, D. R. (1993). Congressional Dynamics and the Decline of Competitive Congressional Elections. In L. C. Dodd, *Congress Reconsidered* (5th Edition ed., pp. 146-147). Washington, D.C., United States of America: Congressional Quarterly Press.

Collie, M. P. (1981). Incumbency, Electoral Safety, and Turnover in the House of Representatives, 1952-1976. *The American Political Science Review*, *75* (1), 119-131.

Dorey, D. R. (2008). Candidates, Canvassing, and Campaign Finance in Local Elections. *University of Colorado - Senior Honors Thesis*, 1-28.

Florina, M. P. (1877). The Case of the Vanishing Marginals: The Bureaucracy Did It. *American Political Science Review*, *71* (1), 177-181.

Gelman, A., & King, G. (1990). Measuring Incumbency Without Bias. *American Journal of Political Science*, 1142-1164.

Gerber, A. (1998). Estimating the Effect of Campaign Spending on Senate Election Outcomes Using Instrumental Variables. *The American Political Science Review*, *92* (2), 401-411.

Hogan, R. E. (2008). Policy Responsiveness and Incumbent Reelection in State Legislatures. *American Journal of Political Sciencw*, *52* (4), 858-872.

Jacobson, G. C. (1978). The Effects of Campaign Spending in Congressional Elections. *The American Political Science Review*, *72* (2), 469-491.

Jacobson, G. C. (2009). *The Politics of Congressional Elections* (7th Edition ed.). New York, New York, United States of America: Pearson Education.

Krasno, J. S., & Green, D. P. (1988). Preempting Quality Challengers in House Elections. *The Journal of Politics*, *50* (4), 920-936.

Krebs, T. B. (1998). Determinants of Candidates' Vote Share and the Advantages of Incumbency in City Council Elections. *American Journal of Political Science*, *42* (3), 921-935.

Lyons, M., & Galderisi, P. F. (1995). Incumbency, Reapportionment, and U.S. House Redistricting. *Political Research Quarterly*, *48* (4), 857-871.

Marschall, M., Shah, P., & Ruhil, A. (2011, January). Sympiosum - The Study of Local Elections - A Looking Glass into the Future. *Political Science*, pp. 97-114.

Prewitt, K. (1970). *The Recruitment of Political Leaders: A Study of Citizen-Politicians.* New York, New York, United States of America: The Bobbs-Merrill Company, Inc.

Weisberg, H. F. (2002). Partisanship and Incumbency in Presidential Elections. *Political Behavior*, *24* (4), 339-360.