Bipartisan Cosponsorship and District Partisanship: How Members of Congress Respond to Changing Constituencies

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I. Introduction

When Representative Mike Coffman was elected to serve Colorado's 6th Congressional District in 2008 he won with a 22-point margin, in what was a very safe Republican district. In 2014 Representative Coffman kept his seat in a much more competitive election against a well-funded opponent. Representative Coffman successfully held onto his district, despite a large change in its composition. As a result of the 2012 redistricting and some other demographic factors, the Colorado 6th moved from a safe Republican district to a marginally Democratic district. Like many Representatives in the US Congress, Representative Coffman faced significant changes to the political composition of his district due to redistricting. But unlike some, Representative Coffman was able to survive reelection in a very vulnerable seat. I want to examine how Members of Congress like Representative Coffman adapt to changing districts. Specifically I am interested in explaining how Members of Congress change their legislative behavior in response to changes in district partisanship. Legislative behavior encompasses the different choices a Member of Congress (MC) makes when voting, sponsoring legislation, making floor speeches, and issuing press releases.

Previous research in this area has focused on how MCs specifically change their voting behavior to respond to constituents. For this paper, I chose to focus specifically on MCs who were particularly vulnerable to changes in their district. These MCs serve in politically volatile districts that are close to, or already have flipped to supporting the opposing party. While changes in voting behavior can help explain how some MCs are able to hold despite changes in their districts, this is only part of the picture. Another equally important way that MCs can adapt to changing districts is by changing their cosponsorship behavior. What makes cosponsorship inherently different from voting is its more public nature. When a MC cosponsors a piece of legislation they are effectively taking ownership of that legislative issue. Cosponsorship also

indicates a stronger level of support for legislation than simply casting a vote in favor of a bill. By taking a strong ownership stance on particular legislative issues, MCs are able to show more substantial efforts to address their constituents' interests than simply voting with their constituents. Cosponsorship also functions as a commitment mechanism to help build coalitions of like-minded Representatives. MCs looking to build a track record of bipartisanship can use cosponsorship to build alliances with members of another party.

II. Abstract

I hypothesized that Members of Congress serving in politically volatile districts would increase their level of bipartisan cosponsorship in response to changes in district partisanship. Ultimately I found no significant relationship between changes in cosponsorship and changes in district partisanship, but I did find a strong relationship between raw cosponsorship scores and changes in district partisanship. This finding suggests that there is something unique about these volatile districts that motivates MCs to be more bipartisan. One possible explanation for this behavior is that these volatile districts themselves have a selection bias towards electing bipartisan legislators. Another possible explanation is that legislators serving in these volatile districts are gradually narrowed out until a bipartisan legislator emerges.

I start this thesis with a review of the relevant literature on the marginality hypothesis, redistricting, cosponsorship, and other aspects of Congressional behavior. The previous literature shows both some support for and support against my hypothesis. In my theory section I expand on my hypothesis and explain how and why I chose to look specifically at volatile districts in my study. I also expand more on how cosponsorship differs from other types of legislative behavior. In my research design section I explain the regression model used in this paper, and why I chose

that method. Finally in the results and discussion section I expand on my findings and outline topics for future research.

II. Literature Review

Three key areas of existing literature in political science are crucial to understanding the relationship between cosponsorship and district partisanship. The first body of research on this topic has focused on the "marginality hypothesis" which examines whether MCs who win by narrower margins tend to be more responsive to constituent preferences on certain policy issues. The literature in this area is very mixed with some studies finding proof for the relationship (Sullivan and Uslander 1978, Griffin 2006, Campbell 1981), some studies finding no relationship (Fiorina 1973, Kuklinsky 1997, Cohen and Brunk 1983), and one finding the inverse holds true (Huntington 1950). The second body of literature focuses on how incumbent MCs are able to hold on to their seats. Whether through transfer payment voting (Hibbing 1984), funneling pork into their districts (Bickers and Stein 1996), performing constituent services (Alford and Hibbing 1981), or party disloyalty (Deckard 1976) incumbents can employ a variety of tactics to retain control of their seats. The third body of research focuses on cosponsorship and its impact on legislation. By building large networks of cosponsors, MCs are able to increase the likelihood that bills they sponsor become law (Fowler 2006). In another study, Laurel Harbridge (2009) found MCs attempting to establish bipartisan credentials are more likely to engage in bipartisan cosponsorship rather than bipartisan roll call voting. Finally Sulkin and Bernhard find that cosponsorship agreements function as a "commitment mechanism" (2013, pg. 2) to keep MCs honest.

The Marginality Hypothesis: How do legislators respond to constituents?

The marginality hypothesis suggests that MCs that win by smaller electoral margins will tend to support positions more in line with those of their constituents. Early research on the

marginality hypothesis focused on state legislatures. While the relationship has been confirmed in state-level analysis of electoral margins, the results have been mixed as scholars have attempted to study the relationship at the federal level. Part of the reason for this variance in results is due to the different timeframes that studies focus on. Previous studies focused primarily on the 1950s through the 1970s, a time in Congress where regional factors also strongly determined constituent behavior. Unlike these studies my paper focused on the 1982, 1992, and 2002 redistricting periods. During this timeframe regional factors were not as strong as during previous eras, allowing for a better test of legislative behavior.

Among the studies that confirm the marginality hypothesis, John Sullivan and Eric Uslaner (1978) found that in districts with smaller margins of victory, the candidate that is closest ideologically to the constituency tends to win. However they find that incumbents tend to have a higher chance of winning reelection, regardless of whether or not they vote with their constituency. Their study focused on the 89th and 90th Congresses (1965-1969), using survey responses to establish ideology scores for incumbents, opponents, and constituencies.

While only finding a weak relationship during the same period, James Campbell (1978) argued that electoral competition encourages MCs to respond to constituents. Though Campbell qualifies this by asserting that the impact of electoral competition on legislative behavior is ultimately determined by what category a MC falls into. MCs that serve in very marginal, very safe, or "equilibrium" districts weigh constituent desires, but ultimately respond to other factors when making policy decisions. Among MCs that serve slightly marginal districts, Campbell finds the highest likelihood of responding to constituent positions. These MCs have the most to gain from changing their position, unlike their colleagues on the margins.

Finally John D. Griffin (2006) focuses on the 93rd-106th Congresses (1975-2001), studying the relationship between the responsiveness of representatives to their constituents and electoral margins. Griffin's study compares the electoral competitiveness of districts to the ideology of MCs measured though roll call voting. He finds that MCs from more competitive districts tend to be more responsive to their constituents, especially when removing southern districts and midterm elections from the analysis. This paper focused on a similar timeframe and used similar measurements for district competitiveness, but instead examined cosponsorship behavior as a measurement of bipartisan legislative behavior. MCs in competitive districts want to establish strong bipartisan credentials, and thus sponsor more bipartisan legislation. In contrast, representatives in non-competitive districts will need to avoid bipartisan cosponsorship at all costs, and instead cosponsor more partisan legislation.

In his study of the 89th and 90th Congresses (1965-1969) Morris P. Fiorina (1973) focused on a MC's perception of winning reelection and its effects on voting behavior. His study found that even if a representative is not confident about their chances of being reelected, they will not adjust their voting behavior. Additionally Fiorina also found that instead of taking more middle-of-the-road positions, MCs in more competitive districts actually tend to adopt the positions of extreme parts of their constituency.

Finding further evidence against the marginality hypothesis, Jeffrey E. Cohen and Gregory G. Bunk (1983) found no connection between party loyalty and electoral margins in their study of MCs from the 83rd through 95th Congresses (1953-78). Their study compared election results (as a measure of marginality) against party loyalty scores. They used a MC's perception that they are safe, based on changing margins of victory overtime, to examine how election results motivate party loyalty. Ultimately they found that even after accounting for

perceptions of safety, MCs do not change their party loyalty behavior in response to electoral margins.

The mixed results of studies on the marginality hypothesis present an interesting opportunity for further research. Previous studies have found evidence both for and against the marginality hypothesis across different time periods, and at the state and federal level. By focusing on a different measurement of bipartisanship—cosponsorship behavior—this paper departs from previous studies. Because cosponsorship agreements constitute tacit agreements between MCs, they provide an excellent opportunity to form either partisan or bipartisan relationships. Whether a MC serves in a "safe" or "competitive" district, they will face significant incentives to establish beneficial relationships with other legislators. By forming legislative alliances, MCs increase their own power and influence, increasing their chances of winning reelection.

Influencing Votes: How do Incumbents Stay in Office?

Another related body of research focuses on the variables that influence incumbent reelection. One study, by Barbara S. Deckard (1976) focused on how vulnerable incumbents can benefit by going against their party. She found that only vulnerable Republicans benefit from partly disloyalty in a close election. Deckard argues Republicans that represent districts that are "less Republican" in terms of demographics tend to benefit from disagreeing with their party on some issues. These vulnerable Republican MCs are even able to win by larger margins than their safer colleagues by going against their party. Deckard's work suggests that by building bipartisan credentials, some vulnerable MCs are able to survive, even in very marginal elections.

In his study of transfer payment voting programs, John R. Hibbing (1984) identifies two distinct motivations for MCs to engage in transfer payment voting. First Hibbing identifies that MCs engage in transfer payment voting for the short-term benefit to the local economy in their

district. Second, MCs will engage in transfer payment voting in an attempt to separate themselves from their opponents by using the power of their office to gain the support of certain groups, like veterans or seniors (who both often benefit from these types of programs). Hibbing's findings show that MCs can change specific aspects of their legislative behavior to retain their seats, but this strategy is only successful when either a) a transfer payment voting bill is currently up for a vote or b) if their district has a large number of people who would benefit from the program.

In a related study, Bickers and Stein (1996) focused on how MCs are able to funnel pork barrel spending projects into their districts to ward of quality challengers. Their study found that after winning an open seat race, MCs attempt to direct Congressional spending into their districts to secure themselves against future challengers, especially if that MC won their seat by a narrow margin. They also found that while many MCs will attempt to use programs within the Small Business Administration to provide loans and support for small business in their district, discretionary awards that are awarded more generally are more effective at warding off strong opponents.

Incumbency advantage is another important factor than can help protect vulnerable MCs from being voted out of office. John R. Alford and John R. Hibbing (1981) found that incumbents did experience increasing electoral margins to due incumbency advantage, but that these gains tend to level off or even decrease with time. This becomes very important for incumbent MCs as they spend more time in Congress. As their legislative career continues, MCs cannot rely as much on incumbency advantage for protection in tough elections. This decrease in incumbency advantage then forces MCs to adopt different strategies to protect their seats. At this

point, MCs must turn to strategies like transfer payment voting, funneling pork, or adjusting their roll call voting or sponsorship behavior in an attempt to bolster public support.

MCs will also make strategic decisions on whether or not to communicate their stance on a particular issue to build constituent support according to Daniel Lipinski (2004). The two main reasons a MC publicizes their behavior, according to Lipinski, are either to take credit or to explain to their constituents why they voted a certain way. Lipinski argues that MCs will use targeted messaging like mass mailings to communicate information to their districts, but only when doing so may benefit them electorally. Members also base whether or not they will communicate their behavior based on the level of media coverage they have already received in their district. If the local news in a member's district has already publicized their vote, the likelihood of that MC mentioning their vote in a mass mailing decreases. While Lipinski finds that MCs make strategic decisions to publicize their voting behavior, he also finds that sometimes this communication has unintended consequences. According to Lipinski, voters will place information they receive about their MC in the context of what they already know. So new information about improved behavior is sometimes not enough to protect a MC from being voted out of office. However, Lipinski still argues that, "members' messages evaluating congressional performance can have a significant impact on elections." (Lipinski 2004, p.100) Establishing a track record of bipartisanship would be crucial to any MC trying to appease a new, potentially hostile district. One avenue for establishing such a track record is engaging in bipartisan cosponsorship.

Cosponsorship as a Commitment Mechanism

Cosponsorship is one very important tool that MCs can use to establish bipartisan credentials in response to district preferences. Cosponsorship serves three crucial functions for

vulnerable MCs. First, MCs use cosponsorship to build networks with fellow legislators. The larger the network of cosponsors a specific MC can build, the more likely their bills will be made into law (Fowler 2006). Second, MCs can engage in cosponsorship to establish bipartisan credentials (Harbridge 2009). Third, cosponsorship agreements operate as commitment mechanism to force MCs to keep promises they make to other legislators.

By reneging on cosponsorship agreements, MCs can face negative consequences from their colleagues, according to a study by William Bernhard and Tracy Sulkin (2013). They find that cosponsorship functions to guarantee commitment and allow MCs to develop alliances with other MCs. These alliances become crucial for MCs to find support for their own legislation. MCs have substantial incentive then not only to cosponsor legislation, but also to do so strategically. Cosponsorship then has two distinct benefits of MCs trying to secure victory against either a primary or a general election opponent. First, cosponsorship is one of many tactics a MC can employ to establish either the partisan or bipartisan credentials necessary to retain their seats. Second, active cosponsorship allows MCs to develop strong legislative networks, making it easier to pass their own bills. This encourages MCs to engage in cosponsorship to further their own legislative agenda.

In a similar study, James Fowler (2006) found that MCs who were able to build larger cosponsorship networks were able to increase their own legislative influence and power. Fowler finds that the "denser" of a network of cosponsors a MC has worked with, the more likely it is that their bills or amendments will pass the floor. As discussed in the section above, maintaining legislative influence is crucial for incumbents attempting to survive tough elections. Thus, vulnerable legislators face significant incentives to engage in cosponsorship (whether partisan or bipartisan) to build their own legislative influence.

Despite recent spikes in highly partisan voting behavior in the US House, Laurel Harbridge (2009) finds that cosponsorship behavior tends to be much more bipartisan than roll call voting behavior. She notes that recently MCs have moved from roll call voting to cosponsorship as their primary means of establishing bipartisan credentials. While only finding results of MCs facing tough general election competition, Harbridge's findings are nonetheless valuable to understanding cosponsorship. She finds that by engaging in largely bipartisan cosponsorship MCs can bolster their support among independents and "party leaners" (2009. v). While bipartisan cosponsorship also hurts vulnerable MCs support among party loyalty, they often still manage to hold onto their seats.

Redistricting Literature

One final area of literature related to this project focuses on the effects of redistricting. The literature in this area focuses on specific episodes of redistricting and the electoral consequences of different methods of drawing district lines. One important lesson from this area of research comes from a study by David T. Canon, Matthew M. Schousen and Patrick J. Sellers (1996). They find that redistricting can give minority groups a voice in the political process, forcing MCs to cater their policies to appease these groups. As detailed in the sections above, cosponsorship is one method that MCs have to appease minority groups.

III. Theory

Up to this point I have regularly used the idea of "legislative behavior" to describe changes MCs can make to hold onto power. Legislative behavior encompasses how partisan (or bipartisan) of an agenda a MC pursues through voting, sponsorship, and even floor speeches. Cosponsorship behavior is the central type of legislative behavior I am interested in studying. When facing a changing district I expect MC to change what kinds of legislation they sponsor. One way of doing this that is somewhat difficult to measure would be cosponsoring legislation

that has broad support among a MC's constituents. For example, if a MC's district were changed to include a large community of LGBT supporters, I would expect that MC to begin sponsoring more LGBT-friendly legislation. However it is rare that a change to a MC's district would only change their behavior on one legislative issue. Rather I expect that MCs will need to change their position on multiple issues to respond to changes in the district. Consider a Democratic MC whose new district includes a large amount of rural, Conservative voters. To survive this scenario, this MC will likely try to balance these new constituents by cosponsoring more bipartisan legislation in an attempt to move to the middle.

While there are many ways that a MC can change their behavior to appease a new district, I expect to find the biggest change in their cosponsorship behavior. One reason for this is the fact that cosponsorship is much more public than roll call voting. Even though MCs can publish how they vote, and frequently do, this isn't nearly as strong of a statement as cosponsorship. By cosponsoring legislation a representative can take ownership of a specific legislative issue supported by their constituents. Furthermore, by developing cosponsorship networks with other legislators, a representative can increase their own influence, giving them more opportunities to appeal to new constituents. Cosponsorship also allows MCs to take positions on legislation that they have not received a chance to vote on. Consider again the MC whose district is redrawn to include a military base and a large number of military families. This MC will want to adjust their positions to appease these new voters, but suppose they also do not sit on any of the crucial committees like House Armed Services or Veterans Affairs. In this scenario this MC can cosponsor pieces of legislation sitting before the committee without actually being on the committee. This allows a representative to take stances on issues through cosponsorship that they might otherwise be unable to take.

Because of all of the political benefits of engaging in bipartisan cosponsorship, I expected that MCs who faced significant changes in district partisanship would adjust their cosponsorship behavior in response to their district. This lead to my first hypothesis:

H1: Changes in district partisan competitiveness will cause a change in bipartisan cosponsorship behavior.

However, I quickly learned that when examining how MCs respond to changes in their districts it is important to take into account not only how much a district changes in partisanship, but also the impact of that change on the total partisanship of the district. Before expanding on this further, it is necessary to briefly explain how Cook PVI is calculated and what exactly it measures. A more detailed explanation of Cook PVI is included in the Research Design. Cook PVI scores are calculated by taking the difference between the percentage of the vote that a Presidential candidate of one party receives in the district and the percentage of the vote that same candidate receives nationwide. This difference is used to generate a number, typically preceded by a letter (D or R) to signify the partisan direction of the district. So for example, Colorado's 1st Congressional District was rated D+18 in 2014, while Colorado's 4th Congressional District was rated R+12. While Cook PVI is an excellent measure of district partisanship, it does have one weakness when trying to study changes in PVI. A decrease in Cook PVI score of 5 points has drastically different impacts for a MC in a +40 district than a MC in a +8 district. Changes in district competitiveness are much more likely to have an impact on MCs who serve in "volatile" districts that are close to changing in partisanship. For this reason, I want to focus specifically on these vulnerable MCs serving in volatile districts. This leads to my second hypothesis:

H2: For Members of Congress serving in politically volatile districts, changes in district partisan competitiveness will cause an increase their bipartisan cosponsorship.

For the purpose of this study, I defined volatile districts that flipped to supporting the opposing party, or came within a certain threshold of flipping. How exactly this "volatility" was determined will be explain in detail in the Research Design. For the purpose of this paper, I will be focusing exclusively on the second hypothesis.

IV. Research Design/Data

To test my hypotheses I created a regression model to study the impacts that changes in district competitiveness have on cosponsorship behavior. I chose to focus on the US House of Representatives between 1973 and 2005 for my study. I chose to look at the House of Representatives, instead of the Senate, because Congressional districts change in partisanship more frequently and in greater amounts than whole states do. I chose to look specifically at the period from the 1973 to 2005 because during that time period regional factors were less relevant that during pervious decades. Another motivation for looking at this time period in particular is to evaluate the change in bipartisan cosponsorship over time, to evaluate whether Congress is more bipartisan or less bipartisan now than it was in the 1970s.

To measure changes in district competitiveness I used Cook PVI Data across Congresses to measure change in electoral competitiveness of a district. As explained above, Cook PVI is calculated by evaluating the difference between Presidential election results by district and nationally to generate a score for the district. Political strategists and journalists frequently use this measure to judge how partisan different districts are. One of the benefits of Cook PVI scores is that they measure partisan competition in a district, free from an individual MC's popularity in their district.

However, because Cook PVI Data scores have only been compiled since 1997 I reconstructed data on PVI scores before that year. To do this I used election data gathered by James Snyder that measures Presidential election results by Congressional district.

One disadvantage of evaluating changes in Cook PVI scores is the same amount of change in PVI has a different impact for different levels of starting PVI. To account for this, I created three dummy variables to isolate MCs who serving in politically volatile districts, and thus are most likely to be affected by a change in PVI. The first variable "flip" captures MCs whose Cook PVI scores flip to be in favor of the opposing party. The second and third variables are designed to each capture a slightly larger number of volatile districts. The second variable, "scared" captures MCs who are within 2 points of flipping, while the third variable "worried" captures MCs who are within 5 points of flipping.

To measure cosponsorship behavior I used data from Laurel Harbridge and James Fowler on bipartisan cosponsorship. These data measure both the raw number and percentage of bills that a member cosponsors during one session of Congress where 20, 30, 40, or 50 percent of a bill's sponsors are from another party. However for my model I only used the 20% measure. I compared a representative's cosponsorship across Congresses to generate a "change in cosponsorship behavior" score. A significant advantage of using these scores is that they measure the percentage of a MCs total cosponsorship that is bipartisan. This allows me to evaluate the impact the change in district competitiveness have on a MCs overall cosponsorship behavior.

One of the biggest advantages to this method of research is that it allows for evaluating a specific member's behavior over time, holding other things constant. One disadvantage of this specific research design is the possibility of a MC's retirement censoring valuable data. If a MC decides to retire before redistricting takes effect, or if they are unable to win reelection in their new district, I cannot determine if a change in the competitiveness of their district changed their legislative behavior.

V. Results

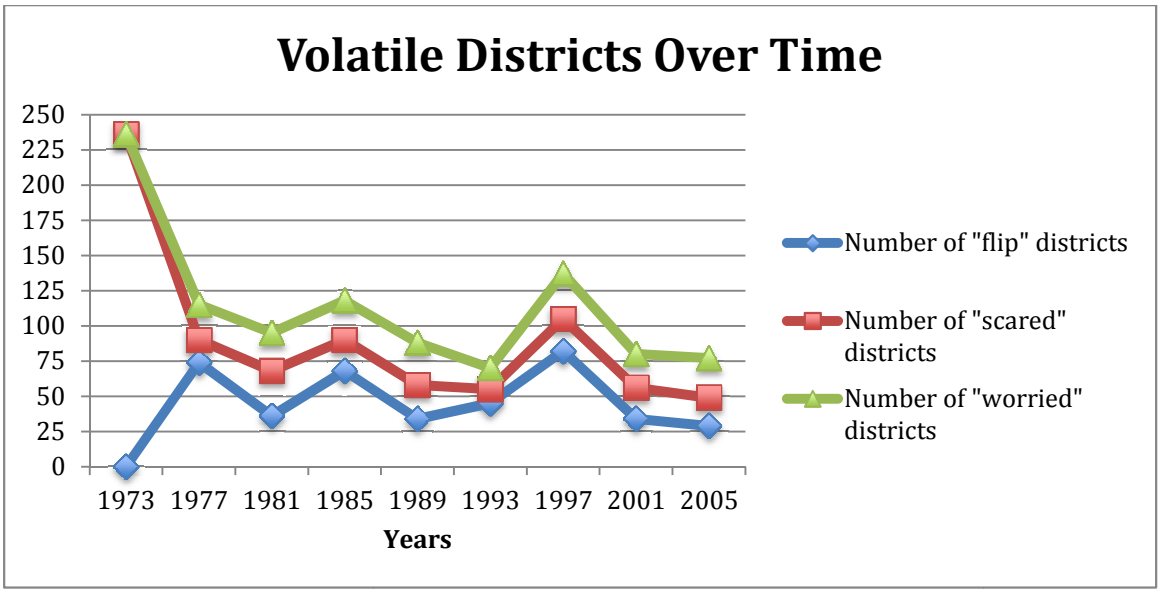
My research question asks, how do Members of Congress change their legislative behavior in response to changes in district partisanship. I hypothesized that MCs would increase their level of bipartisan cosponsorship to in response to changes in district competitiveness. I found that while MCs don't change their behavior in response to changes in district competitiveness, volatile districts are much more likely than safe districts to have bipartisan legislators. Before exploring these results in-depth, it is necessary to begin with some basic information about the variables I used in my regression. To evaluate cosponsorship I used two main dependent Variables, "Change in Cosponsorship" and "Cosponsorship." The summary table below shows the average, minimum, maximum, and standard deviation for each dependent variable.

	Cosponsorship	Change in Cosponsorship	PVI (Absolute Value)	Change in PVI (Absolute Value)
Average	61.54	-0.42	10	6
Min	0	-56.90	0	0
Max	100	75	55	59
Standard Dev.	15.34	9.86	9	6

Note: PVI is shown here as an absolute change, where -5 and +5 are treated the same. In the actual analysis, Directional PVI was used, which is explained below. Absolute PVI was used her to better illustrate the variance in changes in PVI.

The low average, yet high standard deviation for Change in Cosponsorship suggests that changes in cosponsorship do occur, but that there are almost as many MCs who don't change their behavior substantially as there are MCs who do make a substantial change in behavior. The average for Cosponsorship also suggests that bipartisan cosponsorship is quite common, at least in the US House between 1973 and 2005. While there wasn't a significant change in cosponsorship scores across the time period, there was a slight decrease in both Change in Cosponsorship and Cosponsorship from 1973 to 2005 (see Appendix for year breakdowns).

To evaluate district partisan competitiveness I used Cook PVI as my main independent variable. Above, the summary table shows the average, minimum, and maximum for both Change in PVI, and raw PVI. For my regression, I used Change in PVI as my primary independent variable. However, instead of using Change in PVI directly, I created another variable called "Directional PVI." Directional PVI measures a district's change in PVI, but with respect to its original position. A change towards the partisan end of the spectrum is represented with positive values, while a change towards the bipartisan end of the spectrum is represented with negative values. Once I created the measurement of Directional PVI, I interacted it with three dummy variables, Flip, Worried, and Scared. The Flip variable captured a district that changed in partisanship, while Scared and Worried captured districts that came within 2 or 5 points of flipping, respectively. Below is a chart showing the overall number of Flip, Worried, and Scared district over the course of the sample. Despite some outliers, the graph shows that the number of volatile districts stayed relatively the same from 1973 to 2005. The most notable outlier is 1973, where there were 236 districts that came within at least 5 points of flipping, but no districts totally flipped. A likely explanation for this effect is the Republican landslide in in the 1972 Presidential Election. Nixon's strong performance in the Presidential election shifted many Democratic districts close to flipping, but wasn't totally able to flip any single district.



When looking specifically at MCs that fell into one of the three categories I found no significant relationship between changes in district partisanship and changes in MCs bipartisan cosponsorship. Below are the results of the regression using Change in Cosponsorship as the main dependent variable. Table 1 shows the results for MCs whose districts have flipped to supporting another party. Even in this extreme case, there is not a significant relationship between the two variables. Tables 2 and 3 show the results for MCs fall into the categories of "scared" and "worried" respectively. Neither of these cases shows a significant relationship between Change in Cosponsorship and Directional PVI

Table 1

Change in Bipartisan Cosponsorship	coefficient	standard error	t	P<|t|
flip	0.63	0.55	1.16	0.25
Interaction	-5.54	5.96	-0.93	0.35
Directional PVI	1.29	2.79	0.46	0.64
Constant	1.04	0.22	4.67	0.00
r^2	0.00			

Table 2

Change in Bipartisan Cosponsorship	coefficient	standard error	t	P<|t|
scared	0.45	0.48	0.95	0.35
Interaction	-4.94	5.85	-0.85	0.40
Directional PVI	1.31	2.85	0.46	0.65
Constant	1.04	0.23	4.47	0.00
r^2	0.00			

Table 3

Change in Bipartisan Cosponsorship	coefficient	standard error	t	P<|t|
worried	0.28	0.44	0.64	0.52
Interaction	-2.88	5.72	-0.50	0.62
Directional PVI	0.89	2.94	0.30	0.76
Constant	1.07	0.25	4.31	0.00
r^2	0.00			

These findings suggests that representatives are unlikely to change their cosponsorship behavior in response to changes in district partisanship, or at the very least, change it at a slower rate than is captured by this model. Another possibility is that many of these MCs actually change their behavior, but were still voted out of office.

However, when using the original bipartisan cosponsorship score as my dependent variable, instead of the change in cosponsorship, I found a significant relationship. Below are the results of the regression model using Cosponsorship as the main dependent variable. In Table 4, even in the extreme case of MCs whose districts flip, the model shows a significant relationship between changes in PVI represented by Directional PVI, and Bipartisan Cosponsorship. Tables 5 and 6 show the results for the same regression using "scared" and "worried" MCs respectively. In both of these cases, not only is the relationship between the two variables significant, but also the coefficients are larger. This indicates that for members who district come close to changing, but still remain somewhat in their favor, they have a greater likelihood of increasing their cosponsorship scores. One likely explanation for this outcome is that on the whole, these MCs are much more likely to retain their seats than their colleagues whose districts flip. MCs whose districts flipped may have changed their bipartisan cosponsorship to the same extent as their colleagues in safer volatile district, but nonetheless been voted out of office by their constituents.

Table 4

Bipartisan Cosponsorship	coefficient	standard error	t	P<|t|
flip	2.70	0.85	3.17	0.00
Interaction	-23.32	9.16	-2.55	0.01
Directional PVI	-28.88	4.12	-7.00	0.00
Constant	63.03	0.35	181.89	0.00
r^2	0.03			

Table 5

Bipartisan Cosponsorship	coefficient	standard error	t	P<|t|
scared	3.92	0.75	5.24	0.00
Interaction	-33.02	8.96	-3.69	0.00
Directional PVI	-24.71	4.19	-5.90	0.00
Constant	62.55	0.36	173.74	0.00
r^2	0.03			

Table 6

Bipartisan Cosponsorship	coefficient	standard error	t	P<|t|
worried	3.56	0.68	5.27	0.00
Interaction	-40.38	8.73	-4.63	0.00
Directional PVI	-21.29	4.32	-4.93	0.00
Constant	62.27	0.38	162.72	0.00
r^2	0.04			

These finding suggest that volatile districts are much more likely than safe districts to have bipartisan legislators. There are two possible explanations for this outcome: either these districts slowly sort out partisan legislators, or that these districts have a selection bias towards electing more bipartisan legislators to begin with.

VI. Discussion

This model indicates that, at least for the US House of Representatives between 1973 and 2005, changes in district partisanship do not cause significant changes in bipartisan cosponsorship. One likely explanation for the lack of significant change in behavior is that MCs are simply not able to change their behavior fast enough for voters to believe they have changed. Another possibility is that even when MCs change their behavior, voters still make choices based on their previous behavior and vote them out of office. This finding agrees with previous studies of the marginality hypothesis that also found no connection between decreasing electoral margins and MC's responsiveness to constituents. Morris P. Fiorina found that even MCs that were concerned about their chances for reelection were still unlikely to change their voting

behavior (1973). Additionally Jeffrey E. Cohen and Gregory G. Brunk found that vulnerable MCs were unlikely to change their party voting behavior (1983). However, my findings also disagree with some previous studies of legislative behavior that focused on how incumbents were able to fend off strong electoral challengers. While I found not change in the behavior of vulnerable MCs in response to changes in their district, Kenneth N. Bickers and Robert M. Stein found that vulnerable MCs were able to use discretionary awards to fend off quality electoral challengers (1996). Additionally John R. Hibbing found that vulnerable MCs would use the power of their office in an attempt to gain the support of certain groups (1984).

While some MCs like Representative Coffman are able to survive reelection in volatile districts, this is likely not due to a simple change in cosponsorship behavior. Daniel Lipinski's observation that voters place member messages about their behavior in the context of previous behavior is important to understanding this phenomenon. Even if a MC is able to change their voting and cosponsorship behavior to cater to their new district preferences, their constituents may see their change as dishonest and vote them out of office. This presents an interesting area for further research. Future studies could analyze how constituents perceive their Representative's (or any MCs) changed behavior on a legislative issue to see if voters see change as an improvement in behavior, or a dishonest political move.

Members of Congress who survive reelection in politically volatile districts likely do so as a result of an array of strategic choices. Changes in bipartisan cosponsorship alone are not enough to protect a vulnerable MC facing reelection. Another area for future research could focus on is what kinds of messages vulnerable MCs send to their constituents about their job performance. By evaluating the content of MCs messages about their performance, future studies could better understand how MCs respond to changing constituencies and changing district

partisanship. After establishing what kinds of messages MCs send about their behavior in Congress, future studies could analyze if MCs messages about changed behavior match their change in behavior.

However I did find a significant relationship between changes in district partisanship and raw bipartisan cosponsorship scores for MCs serving in politically volatile districts. This finding indicates that volatile districts have a selection bias towards electing bipartisan legislators. This indicates another interesting possibility for future research. Future studies could test how long MCs serving in these volatile districts remain in office. If there is a low attrition rate, that is MCs manage to stay in office in volatile districts long, it would suggest that these districts have a selection bias towards electing more bipartisan members of Congress. A high attrition rate would suggest a gradual narrowing process, where MCs become more bipartisan as they learn lessons from their retired colleagues behavior.

My original motivation for starting this research project was to understand the causes of partisan dysfunction in Congress. Understanding what motivates MCs to engage in bipartisan behavior is important to explaining how partisan dysfunction occurs in Congress. While there was little variation over time in the amount of volatile districts in Congress, there are fewer volatile districts at the end of the sample than at the beginning. This suggests that the number of volatile districts is decreasing, while politically safer districts become more commonplace. If this decrease in volatile districts continues, then bipartisan cosponsorship in Congress will likely decrease as well. These findings have implications for both our understanding of redistricting and Congressional behavior. When redistricting commissions meet to draw new district lines, they should consider the effect that creating safe districts has on Congressional behavior.

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VIII. Appendix

Cosponsorship Scores by Year

	Average Change in Cosponsorship	Average Cosponsorship
1973	-0.03	66.89
1975	-9.91	53.80
1977	9.51	63.73
1979	4.48	69.57
1981	7.31	77.73
1983	-12.23	64.23
1985	-0.59	64.07
1987	0.68	64.67
1989	0.78	65.44
1991	-4.25	60.52
1993	-2.42	56.29
1995	2.54	56.72
1997	0.47	56.44
1999	4.32	60.56
2001	-1.93	58.36
2003	-2.72	56.15
2005	-3.95	51.14