

Determinants of Participation and Electoral Competition in Publicly Funded State Legislative Campaigns

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Abstract: This study examines the effects of publicly funded campaigns for two election cycles in Arizona, Connecticut and Maine, to determine the likelihood a candidate will participate and whether that participation has any impact on competition. The study finds that all types of candidates seem willing to participate, but candidates with the lowest probability of winning may be more inclined to do so. In terms of competition, participating candidates tended to see an increase in their vote shares, while candidates who faced an opponent participating in the program tended to see their vote shares decline.

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In recent decades, electoral politics in the states have increasingly followed trends seen at the national level (Gierzynski 2002; Schultz 2002). This effect has largely resulted in more expensive campaigns for state offices and the perception that those contests are becoming less competitive (Ramsden 2002; Schultz 2002; Hogan 2000; Moncrief 1998; Alexander 1992). As campaign costs have increased, a number of states have sought reforms, such as publicly funded campaigns, to address the issue. Also called “clean elections” programs, these reforms provide public money to finance the campaigns of candidates who voluntarily participate in the program. As of 2010, sixteen states offered public funds to candidates for statewide office, while Arizona, Connecticut and Maine also made full funding available to legislative candidates (NCSL 2010).

A central question surrounding the use of public money to finance political campaigns is whether that money actually improves competition, thereby making elected officials more accountable, or if that funding simply provides money in irreversibly uncompetitive elections. This study will examine this question using legislative elections in Arizona, Connecticut and Maine, in an effort to determine which legislative candidates are more likely to use public funding, and whether participation in these programs influences the level of competition in those races. Individual level analysis will be conducted using a measure of candidate quality that specifies whether the legislative candidates have held any prior political office, something that has not been previously done. An investigation into the effectiveness of public funding seems warranted, given that public monies are used to fund political campaigns. If, as opponents suggest, public funding programs are simply being used by weak candidates with little chance of winning, and are ineffective in achieving the reformers’ goals of increasing competition,

then, those public resources may be better spent elsewhere. In general, given the limited attention paid by voters to legislative campaigns, yet the importance of legislative bodies in formulating public policy, special attention should be given to reform efforts aimed at improving electoral competition to state legislatures.

Public Funding in State Legislative Races

The systems for publicly funding legislative elections in Maine and Arizona were created through citizen initiated ballot measures. The initiatives passed in Maine in 1996 and Arizona in 1998, with public funds first becoming available in each state for the 2000 election (Arizona Citizens Clean Elections Commission 2010, Maine Commission on Governmental Ethics and Election Practices 2010). Connecticut's program was created by the legislature in 2005, shortly after an ethics scandal involving their governor, but the program was not used until the 2008 election (Connecticut EEC 2010). The statutes in all three states created clean election trust funds that raise money from various sources to finance the campaigns of participating candidates.

To qualify for public funding, candidates must first raise seed money in the form of small donations from a specified number of individuals. Candidates may qualify and receive funds for both primary and general elections in all three states, and once certified as a participating candidate, each campaign receives an amount of money determined by an established formula. Qualification requirements and disbursement amounts are shown in Table 1.

(Insert Table 1 somewhere here)

As an added incentive to encourage participation and prevent those candidates from being outspent by nonparticipating opponents or through independent expenditures,

all three systems offered matching funds. If the amount spent by a participating candidate's opponent, and/or third party independent expenditures in favor of the opponent, exceeded the amount of the initial public grant, the participating candidate would receive matching funds equal to the amount spent above the initial disbursement. These matching funds were capped at one time the amount of the initial disbursement in Connecticut, twice the initial amount in Maine, and three times the initial amount in Arizona. There is evidence that non-participating candidates are aware of the implications of matching funds, and, thus, are reluctant to exceed the spending cap, as doing so would provide additional money to their opponent (Miller 2008).

In the months prior to the 2010 election, however, the matching fund provisions in Arizona and Connecticut were struck down by federal judges. In both cases, the court agreed with opponents' arguments that matching funds were an unconstitutional limit on the free speech rights of privately funded opponents (Barnes 2010; Keating 2010). Federal judges in both circuits agreed that matching fund provisions forced non-participating candidates to limit their own spending to prevent their opponents from receiving additional public money. No such injunction was placed on the program in Maine.¹ The removal of matching funds prior to the 2010 campaign may have suppressed participation in Arizona and Connecticut, a question that is explored below.

Overall, then, the public funding systems described above were designed to accomplish several goals. First, the provision of public funds marked an attempt to diminish disparities between challengers and incumbents, by creating a system that provides relatively easy access to campaign money, while limiting the amount spent in each race. Whether or not the removal of matching funds provisions in Arizona and

Connecticut had an impact on participation rates will be examined below. Further, candidates no longer must rely solely on individuals and interest groups with business before government to finance their campaigns. While candidates must raise seed money to qualify for public funding, those requirements are set at levels that should not be difficult for legitimate major party candidates to meet.

Electoral Competition in Legislative Races

Considerable research has examined competition in congressional and state legislative elections, with most of these studies concluding that incumbency and candidate quality are the primary determinants of competition. Incumbents hold considerable advantages when seeking reelection, advantages that influence the strategic calculations of potential challengers. Woven throughout this literature is the importance of campaign spending and the ability of candidates to raise money.

Incumbents tend to hold considerable advantages over challengers for a host of reasons (Gelman and King 1990; King and Gelman 1991). Incumbents possess an electoral advantage simply from the ability to serve voters through casework and the delivery of distributive benefits while in office (Levitt and Snyder 1997; Shan and Stonecash 1994; Cain, Ferejohn and Fiorina 1987). Incumbents also hold considerable fundraising advantages, with the ability to use their office to raise large war chests to scare off potential challengers (Hogan 2001; Box-Steffensmeier 1996).

Research along a separate line has determined that incumbents are only threatened when strong challengers arise to oppose them (Jacobson and Kernell 1983; Green and Krasno 1988). Strong, or high quality challengers are typically defined as those having prior political experience, particularly holding a previous office (Banks and

Kiewiet 1989). Ambitious candidates are expected to behave strategically, deciding to enter a race when conditions are most favorable (Wrighton and Squire 1997; Canon 1993; Banks and Kiewiet 1989; Jacobson 1989). These strategic politicians are more likely to enter races where they have a higher probability of winning, such as in an open seat race or against a vulnerable incumbent. Jacobson (1989) found that the potential to raise money plays an important role in this consideration. Strong potential challengers will tend to run only when they have a reasonable probability of winning, be it a vulnerable incumbent or favorable local or national conditions. In any event, the favorable conditions will allow them to raise campaign funds from private sources, making public funding unnecessary.

Given the calculations of strategic politicians, then, the availability of public funding for legislative campaigns should have little impact on the number of strong challengers running against incumbents. Since high quality challengers who choose to enter a race would have been likely to raise sufficient funds through private contributions without public funding, these candidates may simply accept public funding as a way to reduce the amount of time and effort devoted to fundraising. Further, the use of public funds by strong challengers should not have much impact on competition levels either. These candidates will possess the characteristics needed to run a competitive race, regardless of the source of their campaign funds. Thus, public funding should only have an impact for the least competitive candidates and in the least competitive races. It seems plausible that the availability of public funds might entice weak challengers by giving them access to campaign funds they otherwise would not have. Further, these funds

should make those candidates more competitive, as the money will allow them to mount more effective campaigns.

Publicly Funded Elections in the State Legislative Elections

Previous studies that have examined public funding in legislative elections offer limited evidence in support of this theory. Werner and Mayer's (2007) study on the effects of gender on the use of public funds, found that in lower house races, public funds tended to be used in the least competitive districts and by women. In senate races, more qualified challengers, measured as those that had served in the lower chamber, were less likely to use public funds. This study, however, only examined Arizona and Maine, and measured challenger quality as whether the challenger had previously run for a legislative seat. This measure neglects experience or name recognition that might be gained from serving in a county or local office.

Malhotra's (2008) examination of electoral competition under public funding programs found that the use of public funds did not seem to increase competition across state senate races in Arizona and Maine, but did appear to be somewhat beneficial to challengers running against incumbents. The author speculates that higher quality challengers may be opting into the public funding program, but does not test this assumption. Malhotra's study is limited in that it also only examines Arizona and Maine, and only senate races in those two states. Challenger quality is measured as whether or not a challenger served in either chamber of the legislature, again neglecting the impact of having served in a county or local office.

Similarly, Hamm and Hogan (2008) found evidence that programs offering public subsidies to candidates likely increase the probability that a major party challenger will

emerge. However, this work did not examine any of the states that offer full public funding to legislative candidates, leading the authors to call for more study. Mayer, Werner and Williams (2006) found that the adoption of the public funding programs in Arizona and Maine led to marginally higher levels of competition, finding an increase in the proportion of incumbents with major party opposition, an increase in the proportion of incumbents running in competitive races, and a slight decrease in incumbent reelection rates. By 2006, however, Arizona incumbent reelection rates had returned to pre-reform levels. Salka's (2009) study of spending and competition in legislative elections in forty-nine states found that states with more stringent campaign finance regulations in general, including public funding programs, tended to have less expensive legislative campaigns and more competitive legislative elections. Finally, Francia and Hernnson's (2003) study based on surveys of over two thousand state legislative candidates found that candidates that used public funds spent significantly less time raising money than did privately funded or publicly subsidized candidates.

This more recent wave of studies focusing on the programs in Arizona and Maine have provided evidence that clean elections programs may make some legislative races more competitive, but also that these programs may be most appealing to weaker candidates that would otherwise have trouble raising money. All of these studies are limited by the way the authors operationalize candidate quality, a key control variable. Due to a lack of easily obtainable data, previous studies have measured this concept by indicating only whether or not a candidate has held, or run for, a seat in the state legislature. This measure ignores the experience of potentially qualified candidates who have held elective positions at the county or local levels (Squire 1992). These lower level

offices are important recruiting grounds for legislative candidates and should not be ignored when seeking to measure candidate quality.

An earlier wave of studies examined Minnesota and/or Wisconsin, as these states adopted public funding programs two decades before Arizona and Maine. Two studies found that public funding for legislative elections in Wisconsin had only a marginal effect on elections (Mayer 1998; Mayer and Wood 1995). The gap between challenger and incumbent spending was reduced, but this reduction had little impact on electoral competition. Both studies found that the Wisconsin program offers too little funding to entice candidates to participate.

Studies of Minnesota's public funding system have shown slightly more promising results. Donnay and Ramsden (1995) found that challengers in Minnesota legislative elections were helped by public funding, as participating challengers were able to spend more and increase their vote shares. However, given the inherent bias in the Minnesota system in favor of incumbents, where money is distributed to candidates in part based on how well their party did in the previous election, any electoral gains seen by challengers were negated by gains made by participating incumbents.

Finally, Hogan (2000) found evidence that public funding systems in Minnesota and Wisconsin have helped control the cost of legislative elections in those states, mostly by controlling incumbent spending. Hogan also found, however, that these effects were not substantial relative to other variables and that interest groups in those states have found ways to circumvent these systems, influencing elections without contributing money directly to candidates.

Overall, then, the existing literature can offer only limited evidence regarding the effectiveness of public funding reforms aimed at improving electoral competition in the states. Indeed, virtually every work concludes with a call for more study. The present study seeks to answer this call by examining the more recent experiences in Arizona, Connecticut and Maine.

Data Used

Arizona, Connecticut and Maine were selected because they provide the best opportunity to assess the effects of public funding programs on legislative elections. Of the other states that provide public funds to legislative candidates, three (Minnesota, Nebraska and Hawaii) offer only subsidies to participating candidates, not full funding. These subsidies are offered to entice candidates to accept spending limits, but still allow candidates to raise money from private sources. The fourth state, Wisconsin, offers full funding to candidates, but the amounts provided are too small to induce participation and the system is virtually unused.

As can be seen from Table 2, large majorities of candidates used public funding in 2008 in all three states, but participation rates dropped markedly in Arizona and Connecticut in 2010. This decline may be at least in part due to the fact that matching funds were not available in those states in 2010. This suggests that the federal courts' ruling that the provision of matching funds constitutes an infringement on free speech may have reduced participation in those programs. Across the states and elections, participation was lowest in Arizona, and somewhat higher in Connecticut. Maine had the most inclusive program, with participation rates over 80 percent.

(Insert Table 2 somewhere here)

Arizona, Connecticut and Maine are also ideal cases because the level of professionalism in each state's legislature is markedly different. Maine has a citizen legislature, with fewer staff and resources, and less expensive campaigns (Squire 2007). Arizona has a more professional legislature, with higher legislative pay, more staff and resources for members and more expensive campaigns, and Connecticut can be considered a hybrid, falling in between the other two. While this study is limited to only three states, these states offer the best and only opportunity to assess the impact of clean elections programs on legislative elections.

This study examines two questions. First, the probability a candidate will use public funding based on a number of variables will be investigated. Then, the study will explore whether a candidate's decision to use public funds impacts the share of the vote they receive.

Probability of Using Public Funds

Logistic regression is used to estimate the likelihood that an individual candidate would use public funding. The data consist of candidates for all major-party contested state legislative seats in Arizona, Connecticut and Maine in the 2008 and 2010 elections. Given the differences in the nature of races for house versus senate chambers, separate models are used to examine senate and house elections.

Based on the literature discussed above, the following hypotheses assume weaker candidates, and/or those facing the greatest fundraising challenges, will be more likely to participate in public funding programs. Key here is the assumption that strong candidates, and those in competitive districts, will not need public funds, and will not want to limit themselves by voluntarily agreeing to a cap on the amount of money they can spend.

Since strong candidates typically have less trouble raising money, they are expected to be less inclined to pursue public funds, preferring instead to raise as much money as is necessary through private contributions. The dependent variable is whether or not each candidate sought and qualified for public funding, coded as (1) if the candidate participated, and (0) if not.

The independent variables included in the models control for the factors that are expected to influence the decision to use public or private campaign funds. Candidate quality or experience, measures the highest previous office held, which includes county and local offices. Each candidate's previous experience is coded as (0) if the candidate had never held public office prior to running for the legislature, (1) if they had held a position on a local council or board, (2) if they had served as mayor, first selectman or county commissioner, (3) if they had served in either chamber of the state legislature, and (4) if they were an incumbent.² This variable is adapted from Squire (1992), and is meant to measure whether the candidate had experience running a successful campaign, or, if the candidate has some level of name recognition among voters that a previous office might provide. If public funding is being used by weaker candidates, then, the least experienced candidates should be more likely to participate.

Dummy variables are also used to control for candidate quality, with variables indicating which candidates are challengers, incumbents or running for open seats. Given that incumbents have the greatest electoral advantages, that variable is omitted as the baseline category. If the most disadvantaged candidates are more inclined to use public funds, then, challengers should be the most likely to participate, while open seat

candidates should be next, as these candidates typically need less fundraising help than challengers, but more than incumbents.

The level of competition in each district is calculated with election returns from the two previous elections. District competitiveness is measured as fifty minus the share of the vote the candidate's party received in the district, averaged over the last two elections.³ Values for this variable can range from 50, in which the candidate's party ran unopposed in both elections, to -50, where the candidate's party did not field a candidate in either election. A score of 0 would indicate perfect competition, with each candidate receiving an equal number of votes. This measure goes beyond simply calculating the level of competition in the district to also indicate whether or not voters tended to favor the candidate's party in the previous elections, and to what degree. Essentially, as this measure moves from -50 to 50, electoral conditions become more favorable for the candidate. It is expected that candidates in districts with more favorable conditions will be less likely to accept public funds, as those candidates should also be able to attract more private contributions or not need to spend large sums on their campaigns.

Two separate interaction effects are also included, to further explore the effects of district competitiveness. These variables combine the absolute value of district competition with challengers, and with incumbents. It is expected that challengers and incumbents in more competitive districts will be less likely to accept public funding, again due to their increased ability to raise private funds and their likely aversion to spending caps in competitive races.

District conditions are also examined using a variable indicating the district's median household income. It is expected that candidates running in poorer districts will

have more difficulty raising money, thereby, increasing the likelihood that they will accept public funding.

A candidate's decision to accept public funding should also be influenced by the behavior of their opponent. Candidates should be more likely to use public funds when their opponent is participating, as this allows the candidate to promote herself as running a "clean" campaign. Candidates who face opponents that are privately funded, however, may be less willing to constrain themselves by the spending limits that come with the public funds.

A candidate's political party should also be influential, as members of the Democratic Party are expected to be more comfortable participating, while Republicans are expected to be less willing to use public money to fund political races. This fits with the general philosophies of each party regarding the appropriate role and scope of government, and the appropriate use of public money. Further, being a member of the party that holds a majority in the chamber should also be beneficial, indicating the statewide strength of that party. These benefits should help with fundraising, making members of the chamber's majority party less likely to accept public funding. Thus, in Connecticut and Maine, where the Democratic Party held majorities in both legislative chambers, Democratic candidates were coded (1). In Arizona, where the Republican Party controlled the legislature, Republican candidates were coded (1). A variable measuring the candidate's gender is also included. It is expected that female candidates will be more likely to accept public funding, as females may face greater fundraising and electoral disadvantages than male candidates.

Logistic Regression Results

The results of the logistic analysis indicate that the predictor-models provide a statistically significant improvement over the constant-only models (Table 2). The results from the house model suggest that candidate quality is a significant predictor of whether public funding will be used in lower house races. Even when controlling for district competitiveness, party affiliation, gender and other explanatory variables, the least experienced candidates are more likely to participate than those that have held other offices. Transforming the logit coefficients into probabilities, it appears that for each categorical increase in candidate quality, a candidate is about one time less likely to accept public funding (CI=0.65, 1). The level of competition within each district also appears to be significant in house races. As the level of previous competition in a district becomes more favorable by one percentage point (moving from -50 toward 50), a candidate is one time more likely to accept public funding (CI=1, 1.02). Further, while the challenger and competition interactive was not significant, it appears that incumbents running in more competitive districts were more likely to accept public funds. As the absolute value of district competition increased by one percentage point (indicating a less competitive district), an incumbent was one time less likely to participate (CI=0.95, 1).

(Insert Table 3 somewhere here)

Democrats, women and candidates running in house districts with higher median incomes were also more likely to accept public funding. Democratic candidates were 5 times more likely to accept public funding than their Republican counterparts (CI=3.2, 7.9). Female house candidates were 1.5 times more likely to participate than males (CI=1,

2.1), and, as the median household income in a district increased by \$1,000, a candidate was almost 8 times more likely to accept public funds (CI=2.2, 27.3).

Taken together, the results from the house model tend to support the theory that public funding is used primarily by weaker candidates who might otherwise have difficulty raising sufficient amounts from private sources. This is particularly demonstrated by the finding that higher quality candidates are less likely to participate. The exception to this conclusion is the finding that incumbents in more competitive districts are more likely to use public funding, perhaps reflecting concerns that they might have more difficulty raising sufficient funds for a competitive race when they are one of a relatively large number of candidates running for the lower chamber.

The results from the senate model paint a slightly different picture. Many of the variables that were significant in the house model are not significant in the senate model, including candidate quality and district competitiveness. In the senate, challengers in more competitive districts are more likely to accept public funds. Interpretation of this result is the same as the incumbent/competition variable above. As the absolute value of district competition increased by one percentage point, senate challengers were one time less likely to accept public funding (CI=0.9, 1). Similar to the findings with the house, Democrats were 4 times more likely to accept public funding than Republicans (CI=1.9, 8.1). And, candidates in the state's majority party were slightly less likely (0.3) times less likely to accept public funds (CI=0.12, 0.63).

It is also interesting to note that the federal ruling that barred the provision of matching funds to participating candidates seems to have had an impact on the 2010 races in Arizona and Connecticut, the two states where that decision was enforced. Candidates

running in the Arizona and Connecticut house elections and the Arizona Senate election in 2010 were less likely to accept public funding, likely due to uncertainty about the availability of matching funds in the months leading up to that election. This finding suggests that participating candidates may be less concerned with being outspent by non-participating opponents or independent expenditures when matching funds are available. Thus, stronger candidates may be willing to use public funds as an alternative to raising money on their own. When those matching funds were no longer available, however, some candidates may have opted out of the program to ensure they would be able to raise enough money to run a competitive campaign. The one exception to this explanation is the 2010 Connecticut senate election. However, as can be seen from Table 1, the disbursement for Connecticut senate candidates is over three times higher than the next highest chamber, the Arizona senate. Thus, Connecticut senate candidates may have believed they would receive sufficient funds to run their campaigns, even with matching grants.

Discussion

Overall, then, the logistic regression results presented above provide a somewhat different picture than the one painted by Werner and Mayer (2007). When a more robust measure of candidate quality is used, it does appear that the less qualified candidates in house races are more likely to use public funding. Further, the district competition variable suggests that candidates running in districts with the least favorable conditions, i.e. their party lost the seat by wider margins in the last two elections, are also more likely to accept public funding. Taken together, it does seem as if public funding is more likely to be used by the house candidates with the lowest probability of winning. Candidates

who are in a better position to run a competitive campaign, seem less in need of public support. The one piece of evidence that runs counter to this conclusion is the finding that house incumbents are more likely to accept public funding when running in more competitive districts. House incumbents running in more competitive districts may have concerns about their ability to raise sufficient sums of money when they are one of a relatively large number of incumbents competing for funds to run for that chamber.⁴ Or, participating house incumbents may want to focus on campaigning and reduce the time and effort spent raising money.

The results from the senate model provide no evidence that public funding is more likely to be used by senate candidates with the lowest probability of winning. The candidate quality and district favorability variables are not statistically significant. Instead, it appears that challengers in more competitive senate districts are more likely to use public funding, which does counter the theory that these candidates would be able to raise sufficient funds on their own and would, thus, choose that option.

Determinants of Candidate Vote Share

Having found evidence to explain which candidates are likely to participate in public funding programs, OLS regression will now be used to examine whether the acceptance of public funds has any impact on a candidate's vote share. This portion of the study again uses all major-party contested legislative seats in Arizona, Connecticut and Maine in the 2008 and 2010 elections. The models again separate house and senate elections given the differences in elections to each chamber.

The dependent variable is the percentage of the total vote received by each candidate in the 2008 or 2010 election.⁵ Two models are run to test different aspects of

the clean election programs in each chamber. In Models 1 and 3 (Table 4), a dichotomous variable is used to indicate whether a candidate participated in the public funding program. Given that public funds are intended to increase competition by creating a more level playing field, it is expected that candidates accepting public funds will be able to use that money to run more effective campaigns, thereby, increasing their vote share. In Models 2 and 4, the interaction effects of different types of candidates using public funds are examined by including two additional variables that indicate whether a challenger or an incumbent used public funding. Given that challengers typically have the most difficulty raising money, it is expected that challengers that accept public funds will be able to use that grant to the greatest advantage, increasing their vote share over non-participating challengers. Incumbents, on the other hand, should see fewer benefits from the use of public funds, as those candidates may be using those funds in place of money they could have raised from private sources.

Whether or not the candidate's opponent accepted public funding is also included in all models. Given the prediction that the use of public funding will be associated with increased vote share, it is expected that there will be a negative correlation between an opponent's use of public funds and the candidate's share of the vote. Rejection of the null hypotheses for these four variables measuring participation in clean election programs would provide evidence that the provision of public funds to candidates does help increase the level of competition in legislative elections.

Candidate quality is controlled for with the same variable used in the logistic regression models. Thus, lower values indicate less experienced candidates and the highest value indicates an incumbent. Similarly, whether the candidate is an incumbent,

challenger or running for an open seat is controlled for using dummy variables, with the incumbent variable left out of the model as the baseline category.

The competitiveness of each legislative district is again measured using results from the two previous elections in each district. Like the variable used in the logit analysis, this variable again measures the favorability of each party's electoral conditions in the district. Again, values for this variable range from 50, in which the candidate's party ran unopposed in both elections to -50, where the candidate's party did not field a candidate in either election.

Whether or not a candidate is a member of the legislative majority in each state should also influence their share of the vote, as the majority party likely has some advantage in recruiting and supporting legislative candidates. Again, Democrats held the majority in Connecticut and Maine, while Republicans were the majority party in Arizona. The difference in the amount spent by each candidate and their opponent (in thousands) is also included to control for the effects of different spending levels when one or more candidates did not accept public funding. Dummy variables are also included to control for each state and election year, with the 2010 Arizona election omitted as the baseline.

OLS Results

As can be seen from Table 4, all of the relationships are in the hypothesized direction, and several are statistically significant, indicating these regression results are accurate. Indeed, the results indicate that higher quality candidates, those in the state's majority party and those running in districts where their party won the last two elections

by wide margins, all tended to receive higher vote shares. Conversely, challengers tended to receive lower vote shares than incumbents.

(Insert Table 4 somewhere here)

Of greatest interest to this study, however, are the findings regarding the effects of public funding on competition. The finding from Models 1 and 3, show that any candidate who used public funds tended to receive a higher vote share. In Models 2 and 4, the public funding variable is, not surprisingly, no longer statistically significant, but the interaction variables that indicate if a challenger accepted public funding are significant. This, combined with the lack of significance for the Incumbent/Public Funding variables, suggests that the use of public funds is most beneficial to non-incumbents, who might otherwise have more difficulty raising money. Incumbents, however, seem to receive less benefit from the use of public funds, perhaps because those funds are simply replacing money they would have otherwise raised from private sources. Further, candidates whose opponents used public funding tended to see a significant decrease in their vote share in all models. Taken as a whole, these results provide evidence that the use of public funds do tend to increase electoral competition across all candidates, something not found by Malhotra's study. However, the evidence presented above does support Malhotra's earlier finding that the greatest benefit from the use of public funding seems to go to challengers.

(Insert Table 4 somewhere here)

Conclusions

Overall, the findings presented above generally support the proposed theory that the use of public funds to finance legislative campaigns provides only marginal benefits,

particularly in house elections. Evidence from the logistic regression models suggest that house candidates with the lowest probability of winning are more likely to participate in public funding programs, suggesting those candidates are seeking public funds when they would probably have difficulty raising sufficient amounts of campaign money from private sources. In elections to both chambers, however, challengers and open seat candidates are no more likely to use public funds than are incumbents. Thus, it appears that all types of candidates are using public funding, but it is likely that incumbents and strong open seat candidates are simply using the public money to replace funds they would have raised from private sources. This finding runs counter to the theory that predicted strong candidates would be less likely to accept public funding, as those candidates should be able to raise sufficient amounts from private sources, and would not want to be constrained by spending limits under the clean elections program. It seems, however, that strong candidates are willing to accept public funds, at least when matching funds are available. In this scenario, stronger candidates may simply be opting to use public funding as a means of raising sufficient resources without spending the time and effort required to raise that money from private sources. When matching funds are no longer available, as was the case in Arizona and Connecticut in 2010, stronger candidates may be less inclined to participate when doing so might result in their being outspent. Thus, the U.S. Supreme Court's decision in 2011 to prohibit matching funds in all clean elections programs may result in stronger candidates, especially incumbents, opting out to the program.

In terms of competition, the results presented above indicate that the use of public funding does tend to increase the vote share of candidates that participate in the program.

This finding is based on the statistical significance of the public funding variables in Models 1 and 3, and the fact that the variable indicating whether an opponent used public funds was also significant and negative in all four models. Thus, participation in the program seems to enhance electoral competition. It also appears, however, that challengers receive the greatest benefits, particularly in the more expensive senate races, while incumbents who participate in the program do not seem to derive any particular benefit from having used public funds instead of private contributions. This finding supports the theory that public funds will be most beneficial to those candidates who need the most help raising money, while stronger candidates will simply use public funds as a way of avoiding the time and effort required to raise money from more traditional private sources.

In terms of strategic considerations by politicians, then, it seems that public funding programs may help weaker candidates run more competitive campaigns. Future research should explore whether the increased vote share that challengers using public funds tend to receive is sufficient to make their races competitive. It also appears that strong open seat candidates and incumbents are willing to participate in public funding programs as a way of reducing the effort required to raise money, but this willingness may decline now that matching funds have been ruled unconstitutional by the Supreme Court.

With the ever growing importance of state legislatures in policy making, and the increasing levels of alienation among Americans, states will likely continue to look for ways to make legislative elections more competitive, in the hope of making legislators more responsive. The experiences of Arizona, Connecticut and Maine suggest that clean

elections programs are used by a wide variety of candidates, at least when matching funds are also available, and do seem to provide some benefit to all types of candidates. More to the point, however, these programs seem particularly valuable in helping challengers run more competitive campaigns against incumbents.

¹ In the summer of 2011, the U.S. Supreme court ruled that the matching funds aspect of these programs was unconstitutional, holding that matching funds do impose a substantial burden on the free speech rights of privately financed candidates and independent expenditure groups (*Arizona Free Enterprise Club v. Bennett 2011*).

² There is no single source for information about legislative candidates across the states. Even national public interest groups that claim to have such data have details for only a small minority of these candidates. The data for this project were gathered by the author using internet searches for all challengers and open seat candidates. All three states had websites run by public interest groups that solicited information from candidates, which many candidates provided. When a candidate was not in one of these databases, an internet search of news articles and town, county and state records, was conducted to see if the candidates name showed up in association with boards or commissions or in the meeting minutes of those entities.

³ The Arizona house has thirty multimember districts, where two house members are elected from each senate district. In order to calculate vote share in districts that typically had three or four candidates and two winners, pseudo districts were created using the method developed by Niemi, Jackman and Winsky (1991). With this method, candidates in one party are paired with candidates of the other party to create the most realistic election scenario possible. For example, the Republican candidate with the highest number of votes is paired with the Democrat with the fewest votes, reflecting the relative strength or weakness of each candidate. The same method is used to determine vote share in the OLS models below.

⁴ The Arizona house has twice as many seats as the senate, with each senate district electing two house members in at-large elections. The lower chambers in Connecticut and Maine have more than four times as many seats as their senates. There are 151 seats in both the Connecticut and Maine lower chambers, while Connecticut has 36 senate seats and Maine has 35.

⁵ For an explanation of the method used to calculate vote share in the multimember Arizona house districts, see note 2.

References

- Alexander, Herbert E. 1992. *Financing Politics: Money, Elections, and Political Reform*, 4th Ed. Washington, DC: Congressional Quarterly Press, Inc.
- Arceneaux, Kevin and Gregory A. Huber. 2007. What to Do (and Not Do) with Multicollinearity in State Politics Research. *State Politics and Policy Quarterly*, 7(1): 81-101.
- Arizona Citizens Clean Elections Commission. 2010.
<http://www.azcleelections.gov/home.aspx>.
- Arizona Free Enterprise Club's Freedom PAC et al. v. Bennett, Secretary of State of Arizona, et al.* 2011. 238 U.S. 10.
- Banks, Jeffrey S. and D. Roderick Kiewiet. 1989. Explaining Patterns of Candidate Competition in Congressional Elections. *American Journal of Political Science*, 33(4): 997-1015.
- Barnes, Robert. 2010, June 9. Arizona Blocked from Subsidizing State Candidates Facing Privately Funded Foes. *The Washington Post*, pp. A5.
- Box-Steffensmeier, Janet M. 1996. "A Dynamic Analysis of the Role of War Chests in Campaign Strategy." *American Journal of Political Science*, V.40, N.2: 352-371.
- Cain, Bruce E., John A. Ferejohn, and Morris P. Fiorina. 1987. *The Personal Vote: Constituency Service and Electoral Independence*. Cambridge, MA: Harvard University Press.
- Canon, David T. 1993. Sacrificial Lambs or Strategic Politicians? Political Amateurs in U. S. House Elections. *American Journal of Political Science*, 37(4): 1119-41.

Connecticut State Elections Enforcement Commission. 2010.

<http://www.ct.gov/seec/site/default.asp>.

Donnay, Patrick D. and Graham R. Ramsden, 1995. Public Financing of Legislative Elections: Lessons from Minnesota. *Legislative Studies Quarterly*, 20(3): 351-364.

Francia, Peter L. and Paul S. Herrnsen. 2003. The Impact of Public Finance Laws on Fundraising in State Legislative Elections. *American Politics Research*, 31(5): 520-539.

Gelman, Andrew and Gary King. 1990. Estimating Incumbency Advantage without Bias. *American Journal of Political Science*, 34(4): 1142-64.

Gierzynski, Anthony. 2002. Financing Gubernatorial and State Legislative Elections. In, David B. Magleby, ed. *Financing the 2000 Election*. Washington, DC: Brookings Institution Press.

Green, Donald P. and Jonathan S. Krasn. 1988. Salvation for the Spendthrift Incumbent: Reestimating the Effects of Campaign Spending in House Elections. *American Journal of Political Science*, 32(4):884-907.

Hamm, Keith E. and Robert E. Hogan. 2008. Campaign Finance Laws and Candidacy Decisions in State Legislative Elections. *Political Research Quarterly*, 61(3): 458-467.

Hogan, Robert E. 2000. The Costs of Representation in State Legislatures: Explaining Variations in Campaign Spending. *Social Science Quarterly*, 81(4): 941-956.

Robert E. Hogan, 2001. "Campaign War Chests and Challenger Emergence in State Legislative Elections." *Political Research Quarterly*, 54(4): 815-830.

- Jacobson, Gary C. 1989. Strategic Politicians and the Dynamics of U.S. House Elections, 1946-86. *American Political Science Review*, 83(3): 773-93.
- Jacobson, Gary C. and Samuel Kernell. 1983. *Strategy and Choice in Congressional Elections*. New Haven, CT: Yale University Press.
- Keating, Christopher. 2010, July 14. Fedele Gets Court Clearance to Spend \$2 Million in Public Funds. *The Hartford Courant*, pp. A1, A6.
- King, Gary and Andrew Gelman. 1991. Systematic Consequences of Incumbency Advantage in U.S. House Elections. *American Journal of Political Science*, 35(1): 110-38.
- Levitt, Steven D. and James M. Snyder. 1997. The Impact of Federal Spending on House Election Outcomes. *Journal of Political Economy*, 102(3): 777-98.
- Malhotra, Neil. 2008. The Impact of Public Financing on Electoral Competition: Evidence from Arizona and Maine. *State Politics and Policy Quarterly*, 8(3): 263-281.
- Maine Commission on Governmental Ethics and Election Practices. 2010.
<http://www.maine.gov/ethics/>
- Mayer, Kenneth R. 1998. *Public Financing and Electoral Competition in Minnesota and Wisconsin*. Los Angeles: Citizens' Research Foundation, University of Southern California.
- Mayer, Kenneth R., Timothy Werner, and Amanda Williams. 2006. Do Public Funding Programs Enhance Electoral Competition? In *The Marketplace of Democracy: Electoral Competition and American Politics*, eds. Michael P. McDonald and John Samples. Washington, DC: CATO Institute and Brookings Institution Press.

- Mayer, Kenneth R. and John M. Wood. 1995. The Impact of Public Financing on Electoral Competitiveness: Evidence from Wisconsin, 1964 – 1990. *Legislative Studies Quarterly*, 20(1): 69 – 88.
- Miller, Michael. 2008. Gaming Arizona: Public Money and Shifting Candidate Strategies. *PS: Political Science and Politics*, 41(3): 527-532.
- Moncrief, Gary F. 1998. Candidate Spending in State Legislative Races. In, Joel A. Thompson and Gary F. Moncrief, eds. *Campaign Finance in State Legislative Elections*. Washington, DC: Congressional Quarterly Press.
- National Conference of State Legislatures. 2010. Public Financing of Campaigns: An Overview. <http://www.ncsl.org/default.aspx?tabid=16591>.
- Ramsden, Graham P. 2002. State Legislative Campaign Finance Research: A Review Essay. *State Politics and Policy Quarterly*, 2(2): 176-198.
- Salka, William M. 2009. *Reforming State Legislative Elections: Creating a New Dynamic*. Boulder: Lynne Rienner Publishers.
- Schultz, David. 2002. States and Campaign Finance Reform. *National Civic Review*, 91(2): 205 – 210.
- Shan, Chao-Chi and Jeffrey M. Stonecash. 1994. Legislative Resources and Electoral Margins: New York State Senate, 1950-1990. *Legislative Studies Quarterly*, 19(1): 79-93.
- Squire, Peverill. 2007. Measuring State Legislative Professionalism: The Squire Index Revisited. *State Politics and Policy Quarterly*, 7(2): 211-227.
- Squire, Peverill. 1992. Challenger Quality and Voting Behavior in U.S. Senate Elections. *Legislative Studies Quarterly*, 17(2): 247-263.

Werner, Timothy and Kenneth R. Mayer. 2007. Public Election Funding, Competition, and Candidate Gender. *PS: Political Science and Politics*, 40(4): 661-667.

Wrighton, J. Mark and Peverill Squire, 1997. Uncontested Seats and Electoral Competition for the U.S. House of Representatives Over Time. *Journal of Politics*, 59(2): 452-68.

Table 1: Qualification Requirements and Disbursements in 2010.

	Qualification Requirements	Disbursements for General Election
Arizona House	\$1,100 raised with 220 voters giving \$5 each	\$27,479
Arizona Senate	\$1,100 raised with 220 voters giving \$5 each	\$27,479
Connecticut House	\$5,000 raised from 150 voters, maximum of \$100 per contribution	\$26,000
Connecticut Senate	\$15,000 raised from 300 voters, maximum of \$100 per contribution	\$88,400
Maine House	\$500 raised from 60 voters, maximum of \$100 per contribution	\$4,144
Maine Senate	\$1,500 raised from 175 voters, maximum of \$100 per contribution	\$19,078

Table 2: Participation Rates of All Major-Party Candidates in Clean Elections Programs: Arizona, Connecticut and Maine, 2008 and 2010 Elections

	Senate		House		Total	
	2008	2010	2008	2010	2008	2010
Arizona	60% (30/50)	42% (21/50)	71.1% (69/97)	55.4% (51/92)	67.4% (99/147)	50.7% (72/142)
Connecticut	79.4% (50/63)	53.6% (37/69)	75.3% (180/239)	56.9% (149/262)	76.2% (230/302)	56.2% (186/331)
Maine	80% (56/70)	88.4% (61/69)	82.9% (232/280)	78.1% (228/292)	82.3% (288/350)	80.1% (289/361)

The number of candidates accepting public funds and the total number of candidates are in parentheses.

Table 3: Determinants of Candidate Decision to Accept Public Funding.

	House Model	Senate Model
Candidate Quality	-0.22* (0.10)	0.26 (0.17)
Challenger	-0.76 (0.47)	0.84 (0.83)
Open Seat	-0.44 (0.43)	0.61 (.64)
District Competitiveness	-0.01* (0.004)	-0.02 (0.017)
Opponent Public Funding	0.37* (0.2)	0.37 (0.33)
Democratic Party	1.61*** (0.23)	1.38*** (0.37)
Majority Party	-0.09 (0.26)	-1.31*** (0.43)
Gender	0.37* (0.18)	-0.07 (0.31)
District Income	2.1*** (0.64)	-1.07 (1.21)
Major Party X Challenger	-0.08 (0.36)	0.74 (0.62)
Incumbent X District Competitiveness	-0.03** (0.01)	.01 (0.03)
Challenger X District Competitiveness	-0.01 (0.01)	-0.05* (0.02)
Arizona 2008	0.06 (0.32)	-0.29 (0.62)
Arizona 2010	-0.82** (0.31)	-1.87*** (0.55)
Connecticut 2008	0.43 (0.31)	0.08 (0.62)
Connecticut 2010	-0.74** (0.26)	-1.0 (0.58)
Maine 2008	0.28 (0.23)	-0.69 (0.49)
Constant	-2.24* (1.2)	2.57 (2.36)
N	1109	330
Wald-x ² (d.f.)	275.49(17)***	67.59(17)***
Nagelkerke R ²	.222	.233
Log-likelihood	1035.23	323.33
Percent Correctly Predicted	77.4	77.6
Null Percent Correctly Predicted	76.4	73.6

*p < 0.05; **p < 0.01; ***p < 0.001. Standard errors in parentheses.

Table 4: Determinants of Candidate Vote Share: Arizona, Connecticut and Maine Legislative Elections.

	House Model 1	House Model 2	Senate Model 3	Senate Model 4
Public Funding	2.87*** (0.83)	1.76 (1.58)	2.64* (1.18)	1.07 (2.22)
Opponent Used Public Funding	-2.09** (0.72)	-2.0** (0.72)	-3.13** (1.18)	-2.81** (1.2)
Candidate Quality	1.85*** (0.38)	1.84*** (0.38)	2.0*** (0.54)	2.0*** (0.53)
Challenger	-6.20*** (1.5)	-10.26*** (1.86)	-5.17** (2.16)	-12.3*** (2.87)
Open Seat	-0.52 (1.4)	-1.11 (2.1)	-1.57 (1.72)	-3.12 (2.7)
District Competitiveness	0.263*** (0.02)	0.26*** (0.02)	0.32*** (0.03)	0.31*** (0.03)
Difference in Expenditures (in Thousands)	0.161 (0.19)	0.24 (1.92)	0.83 (0.18)	0.21 (0.18)
Majority Party	2.58*** (0.69)	2.1** (0.6)	2.57** (0.95)	2.26** (0.93)
Connecticut 2008	-1.12 (1.36)	-.65 (1.36)	0.20 (1.84)	0.95 (1.8)
Connecticut 2010	-0.76 (1.34)	-0.29 (1.34)	-0.36 (1.72)	0.54 (1.7)
Maine 2008	-0.56 (1.33)	-0.21 (1.33)	-0.17 (1.7)	0.24 (1.6)
Maine 2010	-0.48 (1.34)	0.001 (1.34)	0.20 (1.76)	0.62 (1.7)
Arizona 2008	0.08 (1.60)	-0.38 (1.57)	0.71 (1.9)	0.22 (1.9)
Challenger X Public Funding		3.68* (1.8)		7.04** (2.8)
Incumbent X Public Funding		-1.57 (1.92)		-1.96 (2.7)
Intercept	47.82*** (2.28)	50.44*** (2.33)	46.92*** (2.94)	48.71*** (3.01)
N	1074	1074	330	330
Adjusted R ²	.583	.587	.665	.677

*p < 0.05; **p < 0.01; *p < 0.001. Standard errors in parentheses.