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Individual campaign contributions and candidate ideology

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Abstract Individual citizens are the largest source of contributions for congressional candidates in the United States. This paper investigates if and how fundraising from this source is related to the ideological positions of candidates. Specifically, we ask whether the amount of contributions depends on: (1) the extremity of candidate ideology; and (2) the level of candidate divergence in the same race. These results have important implications for candidate positioning strategies, as well as for evaluating the effects of recent campaign finance reforms.

Keywords Congressional elections · Campaign contributions · Ideology

1 Introduction

The literature on campaign finance and spending in US congressional elections is vast. There are numerous theoretical studies, plus a copious amount of empirical studies given the availability of data provided by the Federal Election Commission. Despite the sheer quantity of research, there are plenty of neglected and incomplete areas of campaign finance research that deserve attention. One area in particular that has received far too little attention is campaign contributions from individual citizens. While contributions from individuals compromise a majority of contributions to House candidates, and an even larger share for Senate candidates (Jacobson 2004, Chap. 4), few have investigated patterns of contributions from individuals as a separate funding source (but see Snyder 1993; Francia et al. 2003, 2005).

A large share of the attention on campaign contributions has focused on Political Action Committees (PACs) (Gopoian 1984; Poole and Romer 1985; Poole et al. 1987; Grier and Munger 1993; Romer and Snyder 1994; McCarty and Poole 1998). In particular, there has been a heavy emphasis on corporate and labor PACs because of the presumed ideological leanings of these two groups (e.g., Masters and Keim 1985; Keim and Zardkoohi 1988; Grier et al. 1991, 1994). However, if our interest centers on the impact of contributions on

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candidates' electoral strategies, we may want to turn our attention elsewhere. For example, Milyo et al. (2000) observe that contributions from corporate PACs are a very small share of total fundraising. Further, PAC contributions may be part of a larger lobbying strategy (Ansolabehere et al. 2003), and thus may not be influenced directly by electoral activities and prospects. Thus, studying PAC contributions may be important but it probably tells us less about the connection between outcomes and electoral strategies than other forms of contributions.

In this paper we focus on the aggregate pattern of individual campaign contributions for House candidates. Specifically, we ask whether the amount of contributions from individuals is related to the policy positions of a candidate as well as the candidate's opponent. As explained below, determining if and how individual contributions are related to candidates' policy positions is critical for understanding what effect contributions have on candidate position taking. The effect of contributions from individuals has particular relevance because one of the assumptions undergirding the current campaign finance system is that campaigns based on small, ideological contributors are more democratic and representative (Smith 2003). Further, given the recent reforms enacted under the Bipartisan Campaign Reform Act of 2002, the importance of individual contributors has grown.

2 Theoretical motivation

One of the main goals of the theoretical literature on campaign finance has been to assess whether the presence of campaign contributors affects the policy positions candidates adopt (for a review of the early literature, see Morton and Cameron 1992). At least two critical factors have been identified in assessing whether the presence of campaign contributors lead candidates to adopt divergent policy positions. The first is discussed by Mueller and Stratmann (1994). They argue that how money influences voters' decisions (i.e., whether advertising is informative or persuasive) is critical to understanding candidate divergence.

The second major factor concerns the assumptions about the behavior of contributors. Welch (1974, 1980) made a distinction between quid pro quo and ideological models of campaign contributors.[1] In quid pro quo models, Welch (1974) states that contributors are investors that give in order to gain political influence. The exchange of contributions for political influence comes in the form particularistic policies or services offered by the candidate. These private goods are characterized by large benefits for the contributor and widely diffused costs for others in the political and economic system.

In the ideological model, contributions are generated from individuals or groups that are seeking to help favorable candidates win. Contributors are assumed to take the policy positions of the candidates as given and seek to influence the probability that ideologically favorable candidates are successful. This suggests that ideological contributors will give to candidates running in contests that are expected to be close, which is contrary to the quid pro quo model of campaign contributions (Welch 1974, 1980).[2] In his analysis of House

[1] Quid pro quo models have also been referred to as exchange, service-induced, particularistic, or investment models of campaign contributions. Ideological models have been referred to as position-induced, collective-policy, and influencing-elections models.

[2] The sequence of actions is different in the quid pro quo and ideological models. In the ideological model, candidates adopt policy positions and interest groups respond to the positions of the candidates. In the quid pro quo model, interest groups contribute in the hopes of influencing the behavior of the candidates if elected.

and Senate candidates, Snyder (1990, 1993) argues that PAC contributions follow a quid pro pattern but contributions from individuals follow an ideological pattern.

Baron (1994) makes an important observation in regards to these models. Models with ideological contributors are distinguished from quid pro quo models in that competition over ideological policies (or collective policies, as labeled by Baron) may induce interest groups to compete directly against each other. Campaign contribution decisions may be determined by the expected campaign contributions garnered by both candidates. Thus, contributors consider the policy differential between candidates and how those differences will affect the amount of contributions collected by both candidates. One of the key results of Baron's (1994) paper is that candidate divergence does occur with particularistic policies but not with collective policies where interest groups compete directly against each other.

While many of the ideological models differ on some of their key assumptions, they also possess a common assumption that contributors consider simultaneously the policy difference between the candidates. However, this critical assumption has not received much attention in the empirical literature on campaign contributions. If contributors consider the positions of both candidates, then candidates may adopt similar positions because any contributions generated by adopting an extreme position are offset by the counter-mobilization of contributors on behalf of the opponent. This is clearly demonstrated by Baron's (1994) collective policies model.

Also, it may be unreasonable to expect individual contributors to behave in the fashion outlined in the collective policies model. More specifically, an individual contributor may not know who the other potential campaign contributors are and how much they will contribute. Further, among the set of campaign contributors that share similar policy positions, they may face a collective action problem. It is more likely that these individuals will respond to solicitations from ideologically appealing candidates and associates (Francia et al. 2003) rather than making a complex strategic decision based on the behavior of other potential contributors.

Alternatively, if contributors focus on supporting candidates regardless of the opponent's position, then the counter-mobilization of contributors for the opponent is absent (for a variant of this argument see Cameron and Enelow 1992). Under this scenario, a candidate may benefit from adopting a more extreme policy position because of the net gain in campaign contributions, which could be used to mobilize likely supporters, attract uniformed and undecided voters, or both (Aldrich, 1983, 1995; Moon 2004). This distinction about the behavior of campaign contributors is analogous to the distinction made in the literature on voter participation between "abstention from alienation" and "abstention from indifference" (Hinich and Ordeshook 1969, 1970; Hinich et al. 1972; Adams 2001; Adams and Merrill 2003; Plane and Gershtenson 2004). For example, Adams and Merrill (2003) show that if voters abstain from alienation (when participation depends only on the proximity of the nearest candidate), candidates will diverge in the policy space. Alternatively, if voters abstain from indifference (when the policy difference between the candidates is not large enough to offset the cost of voting) then candidates will converge in the policy space.

Given the implications of this distinction based on the candidate positions and the importance of individual campaign contributions in general, an empirical investigation of the relationship between candidate positions, candidate divergence, and campaign contributions from individuals is warranted. A recent innovative survey of individual campaign contributors conducted by Francia et al. (2003, 2005) reveals that individual contributors to the Republican and Democratic parties are ideologically extreme. Thus, this suggests that contributors may focus on the ideological positions of the preferred candidates. More recently, Claassen (2007) has challenged the connection between ideological extremism and participation. He examined the relationship between policy preferences and five different forms

of citizen participation, including monetary campaign contributions. He finds the relative proximity of the candidates to be a better predictor of participation than the intensity or ideological extremism of the individual's policy preferences.

Whereas the study by Claassen (2007) examined individual level survey data, the alternative we pursue is to examine aggregate data on congressional candidates' fundraising. The use of survey data is plagued by several shortcomings, which make the use of aggregate data a viable and potentially preferable alternative. First, survey data, such as the American National Election Studies used by Claassen (2007), are not well suited for studying the effects of congressional context on individual behavior because of the use of cluster sampling (Stoker and Bowers 2002). Further, there may be too few respondents in each district and too few respondents who make contributions. Second, biases in survey respondents may distort the findings. Specifically, given that respondents who are more interested in politics are more likely to participate in surveys about politics, this may skew the sample and introduce selection bias into regression analyses (Brehm 1993). Third, it is not guaranteed that respondents will provide truthful answers regarding their behavior. For example, respondents are more likely to report voting when they did not. Also respondents may be unwilling to discuss financial transactions with strangers. For these reasons we choose to analyze aggregate contributions.

Below we examine whether contributions from individuals to a House candidate increase as the candidate becomes more ideologically extreme or if individual contributions increase as the ideological distance between the candidates increases (i.e., as the candidates diverge). As indicated above, understanding the precise relationship between candidates' positions and contributions is critical to assessing if and how the presence of campaign contributors influences candidate position taking.

3 An alternative explanation

Some scholars have argued that the link between contributions and candidate positions exists but for different reasons. The argument centers on the observation that incumbents possess numerous advantages, such as name recognition, charisma and personal characteristics (e.g., racial or religious background), as well as constituent gratitude for district service and pork barrel projects delivered to the district. These non-policy advantages provide incumbents with the leeway to pursue policies that they prefer with little fear of significant electoral punishment (Londregan and Romer 1993; Bianco 1994; Burden 2004). Further, incumbents who possess these advantages may be able to raise money regardless (or in spite of) their policy positions. In short, the link between policy positions and fundraising may run in the other direction.

It is worth pointing out that the formal literature on the link between non-policy advantages and policy seeking candidates is ambiguous.[3] Whereas Londregan and Romer (1993) argue that candidates with non-policy advantages would adopt more extreme positions, Groseclose (2001) shows that candidates with these advantages may adopt more moderate policy positions. Therefore it is not clear if policy-seeking candidates will adopt more extreme positions, as is typically assumed in empirical work (e.g., Ansolabehere et al. 2001; Burden 2004).

To deal with this potential endogeneity problem implied by the leeway hypothesis, we estimate two-stage least squares (2SLS) models in the analyses reported below. Obviously

[3] We are grateful to an anonymous reviewer for making this observation.

this approach will not rule out the plausibility of the leeway hypothesis but it will help eliminate the threats to valid inference caused by fact the causation may run on the other direction. Further, the use of a 2SLS procedure may eliminate another threat to valid inference: measurement error. Given the difficulty of measuring candidate ideology, it is important to consider that key independent variables are subject to significant measurement error. The 2SLS procedure should increase our confidence that these two threats to inference have been eliminated.

4 Data and variables

The dependent variable is the natural log of the total amount of contributions in thousands of dollars collected for each candidate from individual citizens as reported by the Federal Election Commission (FEC). Since we anticipate that the effect of ideology will be in a different direction for each party, and further, given that the general pattern of fundraising likely will differ between the parties (Cox and Magar 1999; Francia et al. 2003, 2005), we choose to estimate the model separately for each party's candidates.

To test the relationship between candidate ideological positions and individual campaign contributions, we use the ideology measure of Ansolabehere et al. (2001), which utilized Project Vote Smart candidate surveys to create a score for each candidate based on a set of policy positions.[4] The data are from the 1996 election cycle. Using the dataset collected by Ansolabehere et al. (2001) is advantageous because it provides a valid measure of candidate ideology for challengers as well as for incumbents. Many previous studies use roll-call based measures for candidate ideology, and thus, only examine fundraising by candidates who have served as legislators (e.g., Gopoian 1984; Poole and Romer 1985; Poole et al. 1987). Thus, using these data we can examine a broader set of candidates. Further, if we have a measure of ideology for both candidates in the same race we can test whether the candidate's position matters, or whether it matters conditional on the opponent's location.

The IDEOLOGY measure ranges between 0 and 1, with higher scores indicating a more conservative orientation. We expect that Republican candidates will raise more money the more conservative they are and the Democratic candidates will raise more money the more liberal they are. Thus, we expect that the sign of the coefficient for ideology will be positive for Republican candidates and negative for Democratic candidates. However, as discussed above, the influence of a candidate's ideology on fundraising may matter only relative to the location of the opponent. If this is true, the ideological distance between the candidates is the key factor that would explain the amount of fundraising from individuals. DIVERGENCE is the absolute value of the difference between the ideological positions of the Republican and Democratic candidates in the same race.

A critical factor in explaining campaign fundraising is the expected closeness of the race (Jacobson 1980, 1985, 2004; Green and Krasno 1988; Erikson and Palfrey 2000). Incumbents tend to raise more money when they are vulnerable and potential challengers raise more funds when they have an opportunity to defeat the incumbent. We measure the CLOSENESS of the contest using the *CQ Weekly* race rankings.[5] There are four categories: Safe Democratic/Republican (0), Democrat/Republican Favored (1), Leans Democratic/Republican (2), and No clear favorite (3).

[4]The candidate ideology data were obtained from Charles Stewart's web site (http://web.mit.edu/17.251/www/data_page.html).

[5]The rankings can be found in *CQ Weekly*, October 19, 1996 (pp. 2964–2969).

We also control for some of the characteristics of the candidate and his or her opponent. REPUBLICAN INCUMBENT and DEMOCRATIC INCUMBENT are dichotomous variables indicating an incumbent from the respective party is running for re-election (the omitted, baseline category is an open seat contest). Investor models of campaign contributions imply that incumbents should collect more contributions, particularly those who hold important positions in Congress (Denzau and Munger 1986; Grier and Munger 1991, 1993; Hinich and Munger 1994; Snyder 1990, 1993). Therefore, following Francia et al. (2003), we also control for whether the incumbent is a party leader.[6] We include two dichotomous variables that indicate whether the incumbent is a REPUBLICAN LEADER or a DEMOCRATIC LEADER.

Incumbents are not the only candidates who have an advantage in fundraising. Other scholars have argued and shown that challengers who have held previous office are superior fundraisers (Squire and Wright 1990; Jacobson 2004; Basinger and Ensley 2007). We include two dichotomous variables, REPUBLICAN QUALITY and DEMOCRATIC QUALITY, which signify whether the non-incumbent candidate for the respective party has held elective office previously.[7] Finally, we include the length of the incumbent's tenure in office as a control variable since the longer an incumbent has served the greater his or her network of fundraisers and other electoral advantages. The variables REPUBLICAN SENIORITY and DEMOCRATIC SENIORITY are measured as the natural log of number of years served by the incumbent. The value is set to 0 if the candidate is running for an open seat or is the challenger to the incumbent. Table A.1 in Appendix reports summary statistics for these variables.

5 2SLS results

As mentioned earlier, there is reason to believe that a reciprocal relationship exists between ideology and fundraising and that ideology is measured with error. The solution to these two endogeneity problems is to estimate the model using an instrumental variables procedure. Thus we need to create instrumental variables for the ideology variables, as well as the divergence variable, which is composed of the two ideology scores. Given that one of the issues with the ideology variables is measurement error, we use other measures of ideology as instruments. Specifically, we use a combination of the first and second dimension DW-Nominate scores as instruments (Poole and Rosenthal 1997), which have been used as measures of incumbent ideology and have been deemed reliable by others (Burden et al. 2000). For non-incumbent candidates these variables are set to 0. We also include a dummy variable for whether the incumbent is from the SOUTH since members from this region tend to be more conservative regardless of partisan affiliation (Fenno 2000). Further, because we do not have a reason to expect that fundraising is different in the South after controlling for other factors, the instrument is assumed to be exogenous. The details of the 2SLS procedure are reported in Appendix.

In each model presented in Tables 1–3 the ideology and divergence variables are created via an instrumental variables procedure. In addition to presenting the results for each party separately, the results are presented for models with (1) the ideology and divergence

[6] The party leaders are the Speaker of the House, the majority and minority leaders, the majority and minority whips, and the Republican conference chair and the Democratic caucus chair.

[7] The data on challenger quality are from Gary Jacobson. Quality is defined as previously holding an elective office at the local, state, or national level.

measures entered by themselves and (2) both variables included. In Table 1, we present the 2SLS results for the analysis of the total individual contributions to Republican and Democratic House candidates in 1996 as a function of the candidate's ideology (i.e., ignoring the position of the opponent). Note that the number of observations is smaller in the models that include the divergence measure in Tables 2 and 3, as not all candidates responded to the survey.[8] Thus, in Table 1 we present the results with the full set of available observations as well as with the reduced dataset that is used in the models presented in Tables 2 and 3.

The first column of estimates reported in Table 1 is for the available set of Republican candidates. The coefficient for ideology is positive and statistically significant, which indicates that the more conservative a Republican candidate is the more money he or she raises from individuals. In the second column of results in Table 1 we see that for Democratic candidates the coefficient on ideology is negative and statistically significant. Thus, the more liberal the Democratic candidate is relative to other Democratic candidates the more money the candidate collects from individuals.

The results with the reduced number of observations ($N = 285$), which are presented as the third and fourth column of results in Table 1, provide estimates that are approximately the same. These results, therefore, demonstrate that candidate ideology has a significant role in accounting for the contributions raised from individuals. Given that the dependent variable is the natural log of total contributions, interpreting the substantive effect of candidate ideology on fundraising is slightly more complicated because of the nonlinearity. As an example, however, consider that the average Republican candidate in the reduced sample raises approximately $144,000 from individuals. From this baseline, total contributions from individuals for a candidate who is two standard deviations more conservative than the average Republican candidate would increase to $258,000. For Democratic candidates, the average amount raised from individuals is approximately $85,000. A Democratic candidate who is two standard deviations more liberal than the average Democratic candidate would expect contributions to increase to $150,000.

Before examining whether the results change if we account for the relative positions of the candidates, we should note that the other model coefficients in Table 1 have the expected effects. First, the closer the contest is expected to be, the more money the Republican and Democratic candidates raise from individuals. Second, incumbents raise more money than challengers and open seat candidates. Also, quality challengers from both parties raise more money than inexperienced challengers.

Turning to the results presented in Table 2, we find the 2SLS estimates of the effect of candidate divergence on fundraising from individuals. For Democratic candidates we see that divergence does not have a statistically significant effect on the amount of funds raised from individuals. Thus counter to the traditional model of ideological campaign contributions, which assumes that contributions should increase as candidates diverge, we find that the relative ideological distance between candidates is not related to the total amount of contributions raised from individuals after controlling for the expected closeness of the race and the candidates' characteristics. For Republican candidates, the coefficient on divergence is close to conventional levels of statistical significance *but the sign is negative*, which is opposite to the direction expected. This result most likely is attributable to the observation that divergence is a function of both candidates' positions and those positions are positively related (the correlation between candidates positions is 0.3). We consider the effect of divergence and candidates' positions simultaneously in Table 3. However, the results in Table 2

[8] Consult Ansolabehere et al. (2001) for the details about the candidate ideology data.

Table 1 2SLS regression of total individual campaign contributions on ideology

Independent variables	Republican		Democratic		Republican		Democratic	
	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE
Ideology	2.128**	0.852	–1.418**	0.620	1.933**	0.932	–1.874**	0.743
Closeness	0.621**	0.073	0.752**	0.070	0.744**	0.081	0.821**	0.080
Rep. incumbent	1.500**	0.321	0.217	0.304	1.787**	0.387	0.298	0.388
Dem. incumbent	–1.232**	0.544	1.721**	0.317	–0.906	0.574	1.829**	0.420
Rep. quality	1.149**	0.283	0.028	0.149	1.330**	0.294	0.120	0.158
Dem. quality	0.023	0.119	1.194**	0.172	–0.042	0.137	1.174**	0.175
Rep. leader	0.907**	0.396	0.460	1.033	0.916**	0.372	0.496	1.041
Dem. leader	1.315**	0.403	0.761	0.571	1.252**	0.349	0.603	0.623
Rep. seniority	0.061	0.085	–0.322**	0.132	0.125	0.094	–0.328**	0.136
Dem. seniority	0.189	0.189	–0.015	0.089	0.197	0.187	–0.008	0.094
Constant	2.315**	0.744	3.650**	0.322	2.021**	0.806	3.677**	0.417
N	334		330		285		285	
Anderson identification test (χ^2 statistic)	103.6**		149.2**		77.065**		111.1**	
Over-identification test (χ^2 statistic)	3.498*		1.035		2.655		0.233	
R^2	0.57		0.57		0.59		0.59	

Dependent variable is the natural log of total contributions from individuals

2SLS GMM estimation (heteroskedasticity-robust standard errors)

* $p < 0.1$; ** $p < 0.05$

Table 2 2SLS regression of total individual campaign contributions on divergence

Independent variables	Republican		Democratic	
	Coef.	SE	Coef.	SE
Divergence	–1.294*	0.670	–0.253	0.642
Closeness	0.692**	0.079	0.774**	0.081
Rep. incumbent	1.821**	0.380	0.151	0.348
Dem. incumbent	–1.037*	0.581	1.613**	0.381
Rep. quality	1.349**	0.287	0.032	0.154
Dem. quality	–0.145	0.148	1.110**	0.178
Rep. leader	1.323**	0.228	0.176	0.948
Dem. leader	1.591**	0.354	0.786	0.583
Rep. seniority	0.038	0.077	–0.313**	0.141
Dem. seniority	0.209	0.196	0.030	0.094
Constant	4.210**	0.519	3.458**	0.491
N	285		285	
Anderson identification test (χ^2 statistic)	123.4**		123.4**	
Over-identification test (χ^2 statistic)	0.047		0.467	
R^2	0.58		0.59	

Dependent variable is the natural log of total contributions from individuals

2SLS GMM Estimation (heteroskedasticity-robust standard errors)

* $p < 0.1$; ** $p < 0.05$

for both Republican and Democratic candidates clearly do not provide support for the traditional model of ideological contributions.

The results presented in Table 3 show that candidate divergence is not associated with larger total contributions from individuals for Democratic candidates. When we estimate the model with the divergence and candidate ideology measures simultaneously, we find that the estimated effect of ideology remains statistically significant and in the expected direction (negative): Democratic candidates raise more money the more liberal they are. Further, the size of the coefficient is comparable to the results reported in Table 1. Adding divergence to the model did not have discernible effect on the influence of ideology on Democratic fundraising.

The model of Republican candidates' fundraising is more complicated to interpret because the ideology variable and the divergence variable are both statistically significant. The ideology variable is positive and statistically significant, as expected. The more conservative the Republican candidate is the more funds the candidate raises from individuals. The estimated effect of divergence is *negative* and statistically significant. As the candidates diverge, the Republican candidate raises less money, which is contrary to expectations. Since Republican ideology shows up in both variables, care must be taken in interpreting the effects of ideology. First, note that the coefficient for ideology is larger than the divergence variable. This could be interpreted as follows: while holding the position of the Democratic opponent constant, the Republican candidate raises more money the more conservative he or she becomes. Second, the mean of the ideology variable is larger than the mean of the divergence variable. Thus, if we take the average scores for each variable, the net estimated effect is positive and equal to 1.1. Third, we calculated in-sample net "marginal effects"

Table 3 2SLS regression of total individual campaign contributions on ideology and divergence

Independent variables	Republican		Democratic	
	Coef.	SE	Coef.	SE
Ideology	3.442*	1.874	–1.695**	0.734
Divergence	–3.088**	1.282	–1.042	0.860
Closeness	0.673**	0.083	0.789**	0.081
Rep. incumbent	1.580**	0.352	0.252	0.373
Dem. incumbent	–1.250**	0.556	1.710**	0.403
Rep. quality	1.248**	0.298	0.104	0.153
Dem. quality	–0.134	0.146	1.126**	0.172
Rep. leader	0.779**	0.379	0.494	0.986
Dem. leader	1.643**	0.354	0.740	0.610
Rep. seniority	0.141	0.104	–0.345**	0.139
Dem. seniority	0.249	0.192	0.017	0.093
Constant	2.602**	0.972	4.205**	0.712
N	285		285	
Anderson identification test (χ^2 statistic)	26.8**		122.1**	
Over-identification test (χ^2 statistic)	1.283		3.227	
R^2	0.58		0.59	

Dependent variable is the natural log of total contributions from individuals

2SLS GMM Estimation (heteroskedasticity-robust standard errors)

* $p < 0.1$; ** $p < 0.05$

using the actual values of Republican ideology and divergence for each race and the estimated coefficients in Table 3. These estimates are graphed on the y-axis in Fig. 1 against the Republican candidate's ideology on the x-axis. The mean marginal effect is 1.1 with a standard deviation of 0.46 and all of the estimated effects are positive. Clearly, there is an upward trend (with some significant variation): the more conservative the Republican is the more money he or she raises from individuals. This suggests that while the position of the Democratic candidate may have some influence on the pattern of contributions, the amount of contributions is not simply a function of the relative positions of the candidates as is typically assumed in formal models of ideological campaign contributions.

6 Discussion

In this paper we have analyzed the connection between US House candidates' ideology and contributions from individual citizens in the 1996 election. We have used aggregate candidate-level data as opposed to surveys of individual contributors because of the limitations of surveys in terms of selection bias in response and the limited number of respondents per congressional district. The results presented provide strong evidence that candidate ideology is an essential component in explaining fundraising from individual citizens, as shown by Francia et al. (2003, 2005). More importantly, these findings hold even if we control for the relative position of the opponent. Candidate divergence does not appear to have a meaningful effect on fundraising, as the standard model of ideological campaign contributions usually assumes.

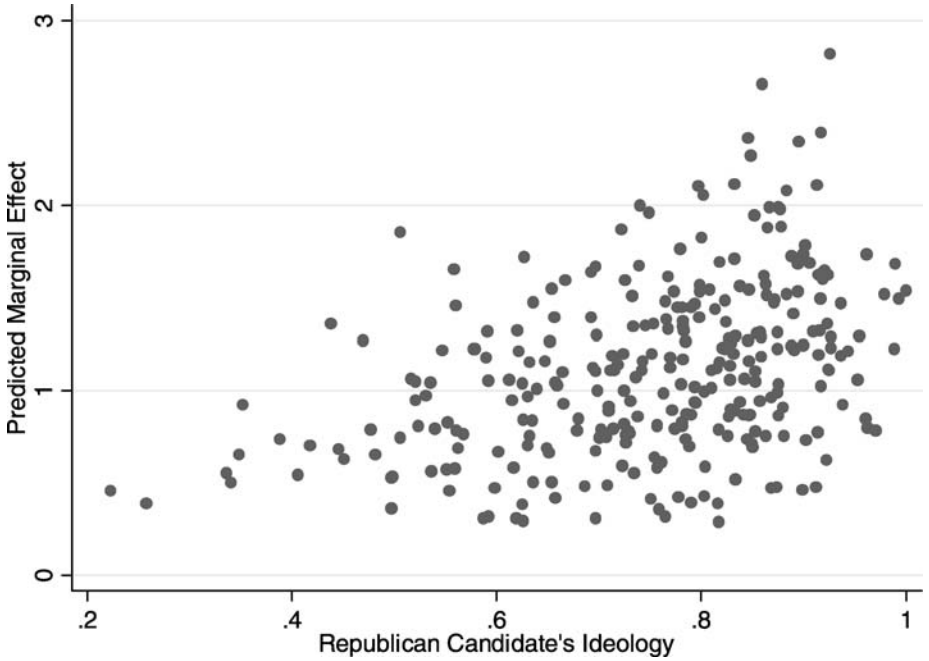

Fig. 1 In-sample marginal effects of ideology and divergence for republican candidates. Predicted marginal effects obtained from 2SLS model for Republican candidates reported in Table 3

This is a significant finding because it has implications for candidate positioning strategies. If a candidate can adopt a more extreme policy position and attract campaign contributions without counter mobilizing contributors on behalf of his or her opponent, this suggests that candidate divergence may be an equilibrium strategy (as outlined in Cameron and Enelow 1992, for example). Further, given that individual citizens are the largest single source of contributions for candidates and the Bipartisan Campaign Reform Act of 2002 raised the contribution limit from individuals (as well allowing the limit to adjust upwards with inflation), the centrifugal pull of campaign contributors may have become stronger in recent elections.

Understanding the relationship between candidate ideology and fundraising could also be important for constructing accurate models of election outcomes. As Snyder (1993, p. 239) notes, the quid pro quo model does an exceptional job explaining PAC contributions but there are clearly other factors underlying contributions from individuals and other groups:

> ... the model [of quid pro contributors] might prove useful in studies attempting to estimate the effect of money on electoral outcomes. Of course, models of other types of contributors, such as individuals, ideological groups and political parties, must also be included in such studies if they are to produce reliable estimates. The development of such models should be high on the campaign finance research agenda.

Therefore, if we are interested in assessing the impact of money in elections, we must construct better models of fundraising. This article is a small but important step in this critical direction.

Future research needs to make progress in measuring candidate ideology, particularly for challengers. Further, we need to consider whether there is more than one important dimen-

sion for candidate fundraising. For example, are candidates' positions on cultural issues such as gay marriage, gun rights, and abortion more important or are standard left-right social welfare issues better for explaining how much candidates raise from individuals? Also, we might want to consider the differences between incumbents and other candidates, as well as how and why the pattern of contributions from individuals differs between the parties. Examination of the 1996 data shows that Republicans have a larger number of individual contributors but the average per capita contribution is smaller. These differences deserve closer attention.

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Appendix

Table A.1 presents the descriptive statistics for the dependent and independent variables presented in Tables 1–3, as well as the instruments used in Tables A.2–A.4. The summary statistics were calculated for the set of complete cases ($N = 285$).

The regression models in Tables 1–3 were estimated via a 2SLS procedure and Tables A.2–A.4 present the respective first-stage regressions for each model. The strategy was to use more instruments than instrumental variables, which would enable us to test if the

Table A.1 Summary statistics

Variable	Mean	Standard deviation	Minimum	Maximum
Individual contributions (Republican)	4.972	1.798	0	8.536
Individual contributions (Democrat)	4.448	1.719	0	7.891
Ideology (Republican)	0.749	0.146	0.223	1
Ideology (Democrat)	0.272	0.144	0	0.808
Divergence	0.477	0.171	0.036	0.863
Closeness	0.607	0.942	0	3
Rep. incumbent	0.554	0.498	0	1
Dem. incumbent	0.407	0.492	0	1
Rep. quality	0.095	0.293	0	1
Dem. quality	0.137	0.344	0	1
Rep. leader	0.014	0.118	0	1
Dem. leader	0.011	0.102	0	1
Rep. seniority	0.940	1.042	0	3.296
Dem. seniority	0.854	1.154	0	3.871
South	0.221	0.416	0	1
Nominate 1	0.066	0.415	−0.723	0.777
Nominate 2	−0.095	0.415	−0.994	1.022
ABS(Nominate 1)	0.382	0.172	0	0.777
ABS(Nominate 2)	0.330	0.268	0	1.022

$N = 284$

Table A.2 First-stage regression of total individual campaign contributions on ideology

Independent variables	Republican ideology		Democratic ideology		Republican ideology		Democratic ideology	
	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE
Closeness	–0.014	0.009	0.004	0.009	–0.017*	0.010	0.013	0.009
Rep. incumbent	–0.131**	0.053	–0.025	0.074	–0.103*	0.063	0.025	0.078
Dem. incumbent	0.131**	0.058	0.128**	0.055	0.141**	0.065	0.147**	0.064
Rep. quality	0.026	0.026	0.041	0.025	0.020	0.027	0.042	0.026
Dem. quality	0.011	0.017	0.050**	0.024	0.018	0.021	0.040*	0.023
Rep. leader	0.083**	0.017	0.067	0.112	0.091**	0.019	0.080	0.109
Dem. leader	0.106**	0.046	–0.076**	0.021	0.105**	0.046	–0.096**	0.024
Rep. seniority	–0.022**	0.011	–0.011	0.013	–0.026**	0.012	–0.009	0.013
Dem. seniority	0.016	0.017	–0.012	0.011	0.015	0.017	–0.010	0.012
South	0.053**	0.017	0.034	0.021	0.046**	0.020	0.023	0.022
Nominate 1	0.399**	0.079	0.231**	0.094	0.381**	0.082	0.187*	0.096
Nominate 2			0.147**	0.026			0.145**	0.025
Constant	0.739**	0.033	0.233**	0.045	0.729**	0.043	0.194**	0.053
N	334		330		285		285	
R^2	0.30		0.39		0.27		0.36	
F-test of excluded instruments	21.9**		66.33**		17.28**		42.99**	
Partial R^2	0.27		0.36		0.24		0.32	

* $p < 0.1$; ** $p < 0.05$

Table A.3 First-stage regression of total individual campaign contributions on divergence

Independent variables	Coef.	SE
Closeness	–0.010	0.009
Rep. incumbent	–0.210**	0.063
Dem. incumbent	–0.173**	0.068
Rep. quality	0.009	0.030
Dem. quality	–0.014	0.026
Rep. leader	–0.087	0.100
Dem. leader	0.085*	0.044
Rep. seniority	0.017	0.013
Dem. seniority	0.004	0.019
ABS(Nominate 1)	0.560**	0.063
ABS(Nominate 2)	–0.124**	0.031
Constant	0.478**	0.055
N	285	
R^2	0.38	
F-test of excluded instruments	77.33**	
Partial R^2	0.35	

The dependent variable is divergence

* $p < 0.1$; ** $p < 0.05$

instruments are exogenous as assumed via the over-identification test. Since measurement error may be an issue, a logical choice for instruments is to use roll-call based measures of incumbent ideology such as Poole and Rosenthal's DW-Nominate scores.[9] We use first and second dimension DW-Nominate scores from the 104th Congress (1995–1996). Poole and Rosenthal claim that the first dimension score captures differences between legislators based on standard left-right, social welfare issues. The second dimension, as of the 1990's, constituted divisions between legislators with respect to cultural issues. For the divergence variable, we use the folded (absolute value) DW-Nominate score as an instrument. The more liberal the Democratic incumbent and the more conservative the Republican incumbent the higher the level of divergence. Finally, we use a variable that denotes whether the candidate is from the South.

First, we should note that in every model the test for instrument strength passes the conventional statistical tests. In Tables 1 through 3, we see that the Anderson test for identification exceeds the conventional ($p < 0.05$) level in every model. Further, the F statistic for the joint hypothesis test of the excluded instruments reported in Tables A.2–A.4 exceeds the value of 10 in each model, which passes the conventional threshold for instrument relevance. Finally, the partial-R^2 for the excluded instruments is high (> 0.19) in every case. Thus, any concern about the validity of the instruments hinges on the exogeneity of the instruments.

The choice of instruments to use in each specific model was guided by theoretical expectations, as well as the results of the test for over-identification. For the Republican candidates' model, we exclude the second dimension Nominate scores as an instrument because we reject the null hypothesis of instrument exogeneity. If we use the South variable along with first dimension Nominate score we do not reject the null hypothesis of instrument exogeneity. The p-value of the over-identification test for the full set of cases ($N = 334$) is approximately 0.07 and for the reduced data set ($N = 285$) the p-value is slightly greater

[9]The DW-Nominate scores were obtained from Keith Poole's web site, http://voteview.com.

Table A.4 First-stage regression of total individual campaign contributions on ideology and divergence

Independent variables	Republican ideology		Divergence		Democratic ideology		Divergence	
	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE
Closeness	0.002	0.009	–0.011	0.009	0.003	0.009	–0.010	0.009
Rep. incumbent	0.013	0.055	–0.210**	0.063	0.093	0.073	–0.207**	0.069
Dem. incumbent	–0.002	0.064	–0.173**	0.069	0.203**	0.067	–0.161**	0.072
Rep. quality	0.045	0.031	0.008	0.031	0.029	0.024	0.007	0.031
Dem. quality	–0.014	0.019	–0.014	0.026	0.032	0.025	–0.015	0.027
Rep. leader	0.069**	0.020	–0.084	0.101	0.139	0.101	–0.086	0.100
Dem. leader	0.043	0.038	0.084*	0.044	–0.062**	0.018	0.095**	0.044
Rep. seniority	–0.020*	0.012	0.017	0.014	–0.025*	0.013	0.015	0.014
Dem. seniority	0.002	0.020	0.004	0.019	–0.003	0.009	0.006	0.019
South	0.072**	0.019	–0.005	0.018	0.019	0.020	0.006	0.020
Nominate 1					0.230**	0.100	0.007	0.062
Nominate 2					0.141**	0.026	–0.034	0.028
ABS(Nominate 1)	0.226**	0.059	0.560**	0.064	–0.275**	0.060	0.543**	0.064
ABS(Nominate 2)	–0.128**	0.034	–0.124**	0.031	0.080**	0.026	-0.139**	0.035
Constant	0.694**	0.046	0.480**	0.056	0.227**	0.054	0.479**	0.057
N	285		285		285		285	
R^2	0.23		0.38		0.49		0.38	
F-test of excluded instruments	16.97**		51.34**		73.23**		30.35**	
Partial R^2	0.19		0.35		0.46		0.36	

* $p < 0.1$; ** $p < 0.05$

than 0.1. Although it is close, in both cases we do not reject the null hypothesis of instrument exogeneity.

For the divergence variable the relevant instruments are the folded DW-nominate scores. In Table A.3 we present the first-stage regression used to create the instrumental variable for divergence in the models in Table 2. Note that the first-stage regression is identical for the Republican and Democratic models, therefore we only report the divergence regression model once. For both models in Table 2, the χ^2 statistic for over-identification test is close to 0 indicating that the instruments are exogenous.

Table A.4 presents first-stage regressions for the models in Table 3. For the Republican model, we use the South dummy variable as an instrument for ideology and the folded Nominate scores as instruments for divergence. We do not use the Nominate scores as instruments given the borderline over-identification tests reported in Table 1. However, we still have more instruments (3) than instrumental variables (2), thus allowing us to perform an over-identification test. As can be seen in Table 3, the χ^2 statistic is not statistically significant. For the Democratic model, we use the full set of instruments (5). The χ^2 statistic is larger than in the Republican model but it is still statistically insignificant. Thus, in both cases we can assume the instruments are exogenous.

References

Adams, J. (2001). *Party competition and responsible party government: A theory of spatial competition based on insights from behavioral voting research*. Ann Arbor, MI: Michigan University Press.

Adams, J., & Merrill, S. III (2003). Voter turnout and candidate strategies in American elections. *The Journal of Politics*, *65*(1), 161–189.

Aldrich, J. H. (1983). A Downsian spatial model with party activism. *The American Political Science Review*, *77*, 974–990.

Aldrich, J. H. (1995). *Why Parties? The origins and transformation of political parties in America*. Chicago: University of Chicago Press.

Ansolabehere, S., de Figueiredo, J. M., & Snyder, J. M. Jr. (2003). Why is there so little money in US politics? *The Journal of Economic Perspectives*, *17*, 105–130.

Ansolabehere, S., Snyder, J. M. Jr., & Stewart, C. C. III (2001). Candidate positioning in US House elections. *American Journal of Political Science*, *45*, 136–159.

Baron, D. P. (1994). Electoral competition with informed and uninformed voters. *The American Political Science Review*, *88*(1), 33–47.

Basinger, S. J., & Ensley, M. J. (2007). Candidates, campaigns, or party? A structural analysis of US House elections. *Legislative Studies Quarterly*, *32*(3), 361–394.

Bianco, W. T. (1994). *Trust: Representatives and constituents*. Ann Arbor, MI: University of Michigan Press.

Brehm, J. J. (1993). *The phantom respondents: Opinion surveys and political representation*. Ann Arbor, MI: University of Michigan Press.

Burden, B. C. (2004). Candidate positioning in US congressional elections. *British Journal of Political Science*, *34*, 211–227.

Burden, B. C., Caldeira, G. A., & Groseclose, T. (2000). Measuring the ideologies of US senators: The song remains the same. *Legislative Studies Quarterly*, *25*, 237–258.

Cameron, C. M., & Enelow, J. M. (1992). Asymmetric policy effects, campaign contributions, and the spatial theory of elections. *Mathematical and Computer Modelling*, *16*, 117–132.

Claassen, R. (2007). Campaign activism and the spatial model: Getting beyond extremism to explain policy motivated participation. *Political Behavior*, *29*(3), 369–390.

Cox, G. W., & Magar, E. (1999). How much is majority status in the US Congress worth? *The American Political Science Review*, *93*(2), 299–310.

Denzau, A. T., & Munger, M. C. (1986). Legislators and interest groups: How unorganized interest groups get represented. *The American Political Science Review*, *80*, 89–106.

Erikson, R. S., & Palfrey, T. R. (2000). Equilibria in campaign spending games: Theory and data. *The American Political Science Review*, *94*, 595–609.

Francia, P. L., Green, J. C., Herrnson, P. S., Powell, L. W., & Wilcox, C. (2003). *The financiers of congressional elections: Investors, ideologues, and intimates*. New York: Columbia University Press

Francia, P. L., Green, J. C., Herrnson, P. S., Powell, L. W., & Wilcox, C. (2005). Limousine liberals and corporate conservatives: The financial constituencies of the Democratic and Republican parties. *Social Science Quarterly*, *86*, 761–778.

Fenno, R. F. Jr. (2000). *Congress at the grassroots: Representational change in the South, 1970–1998*. Chapel Hill, NC: University of North Carolina Press

Gopoian, J. D. (1984). What makes PACs tick? An analysis of the allocation patterns of economic interest groups. *American Journal of Political Science*, *28*, 259–281.

Green, D., & Krasno, J. (1988). Salvation for the spendthrift incumbent. *American Journal of Political Science*, *32*, 884–907.

Grier, K. B., & Munger, M. C. (1991). Committee assignments, constituent preferences, and campaign contributions. *Economic Inquiry*, *29*, 24–43.

Grier, K. B., & Munger, M. C. (1993). Comparing interest group PAC contributions to House and Senate incumbents, 1980–1986. *The Journal of Politics*, *55*(3), 615–643.

Grier, K. B., Munger, M. C., & Roberts, B. E. (1991). The industrial organization of corporate political participation. *Southern Economic Journal*, *57*, 727–738.

Grier, K. B., Munger, M. C., & Roberts, B. E. (1994). The determinates of industry political activity, 1978–1986. *The American Political Science Review*, *88*(4), 911–926.

Groseclose, T. (2001). A model of candidate locations when one candidate has a valence advantage. *American Journal of Political Science*, *45*(4), 862–886.

Hinich, M. J., Ledyard, J., & Ordeshook, P. C. (1972). Nonvoting and the existence of equilibrium under majority rule. *Journal of Economic Theory*, *4*, 144–153.

Hinich, M. J., & Munger, M. C. (1994). *Ideology and the theory of political choice*. Ann Arbor, MI: University of Michigan Press.

Hinich, M. J., & Ordeshook, P. C. (1969). Abstentions and equilibrium under majority rule. *Public Choice*, *7*, 81–106.

Hinich, M. J., & Ordeshook, P. C. (1970). Plurality maximization versus vote maximization: A spatial analysis with variable participation. *The American Political Science Review*, *64*(3), 772–791.

Jacobson, G. C. (1980). *Money in congressional elections*. New Haven: Yale University Press.

Jacobson, G. C. (1985). Money and votes reconsidered: Congressional elections, 1972–1982. *Public Choice*, *47*, 7–62.

Jacobson, G. C. (2004), *The politics of congressional elections*. New York: Longman.

Keim, G., & Zardkoohi, A. (1988). Looking for leverage in PAC markets: Corporate and labor contributions considered. *Public Choice*, *58*, 21–34.

Londregan, J., & Romer, T. (1993). Polarization, incumbency, and the personal vote. In: W.A. Barnett et al. (Ed.), *Political economy: institutions, competition, and representation*. New York: Cambridge University Press.

Masters, M. F., & Keim, G. D. (1985). Determinants of PAC participation among large corporations. *The Journal of Politics*, *47*(4), 1158–1173.

McCarty, N., & Poole, K. (1998). An empirical spatial model of congressional campaigns. *Political Analysis*, *7*, 1–30.

Milyo, J., Groseclose, T., & Primo, D. (2000). Corporate PAC campaign contributions in perspective. *Business and Politics*, *2*(1), 75–88.

Moon, W. (2004). Party activists, campaign resources and candidate position taking: Theory, tests and applications. *British Journal of Political Science*, *34*, 611–633.

Morton, R., & Cameron, C. (1992). Elections and the theory of campaign contributions: A survey and critical analysis. *Economics and Politics*, *4*, 79–108.

Mueller, D. C., & Stratmann, T. (1994). Informative versus persuasive campaigning. *Public Choice*, *81*, 55–77.

Plane, D. L., & Gershtenson, J. (2004). Candidates' ideological locations, abstention, and turnout in midterm US Senate elections. *Political Behavior*, *26*(1), 69–93.

Poole, K. T., & Romer, T. (1985). Patterns of political action committees contributions to the 1980 campaigns for the United States House of Representatives. *Public Choice*, *47*, 63–111.

Poole, K. T., & Rosenthal, H. (1997). *Congress: A political-economic history of roll call voting*. Oxford: Oxford Univ. Press.

Poole, K. T., Romer, T., & Rosenthal, H. R. (1987). The revealed preferences of political action committees. *The American Economic Review*, *77*, 298–302.

Romer, T., & Snyder, J. M. Jr. (1994). An empirical investigation of the dynamics of PAC contributions. *American Journal of Political Science*, *38*(3), 745–769.

Smith, B. A. (2003). *Unfree Speech: The folly of campaign finance reform*. Princeton, NJ: Princeton University Press.

Snyder, J. M. Jr. (1990). Campaign contributions as investments: The US House of Representatives, 1980–1986. *The Journal of Political Economy*, *98*, 1195–1227.
Snyder, J. M. Jr. (1993). The market for campaign contributions: Evidence for the US Senate 1980–1986. *Economics and Politics*, *5*, 219–240.
Squire, P., & Wright, J. R. (1990). Fundraising by nonincumbent candidates for the US House of Representatives. *Legislative Studies Quarterly*, *15*, 89–98.
Stoker, L., & Bowers, J. (2002). Designing multi-level studies: sampling voters and electoral contexts. *Electoral Studies*, *21*(3), 535–536.
Welch, W. (1974). The economics of campaign funds. *Public Choice*, *20*, 83–97.
Welch, W. (1980). The allocation of political monies: Economic interest groups. *Public Choice*, *35*, 97–120.