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# Editorial

**Rick K. Wilson** Rice University

This is the first issue I have edited for the *American Journal of Political Science*. I have been fortunate in that the journal was handed over to me in good condition. The previous editor, Marianne Stewart, and her staff made for a smooth transition and provided me with a number of very high quality manuscripts nearly ready for publication. Rice University and the Midwest Political Science Association have provided excellent support, and the staff at Wiley-Blackwell made it easy to move between editors. I have also been fortunate in starting off with a well-qualified and well-trained staff. Cathy Tipton is the Assistant to the Editor and oversees the day-to-day operations of the journal. My three Editorial Assistants, Marvin McNeese, Aleksander Ksiazkiewicz and James Hedrick are central to the smooth operation of the journal. I often rely on my team of Associate Editors, Matt Barreto, Elisabeth Gerber, Jim Granato, Ashley Leeds, John Patty, Randy Stevenson, and Michelle Taylor-Robinson when making decisions. Finally, the journal has a new Editorial Board that I keep very busy. The old Board served well under the previous Editor and I appreciate the service that they gave to the former Editor.

The AJPS remains committed to significant advances in knowledge and understanding of citizenship, governance, and politics, and to the public value of political science research. This means covering the complete range of political science. I am vastly pleased by the quantity and quality of work that pours in from my colleagues. When considering what to publish I am concerned with manuscripts that address an important research problem or question; manuscripts that display a high level of creativity or innovation in research; manuscripts that contribute in a novel way to a body of knowledge; and, as appropriate manuscripts that demonstrate high quality theorizing and/or state-of-the-art methodological use. In practical terms this means a manuscript that appeals to a general audience and constitutes a breakthrough for the discipline writ large. It may also mean a manuscript that appeals to a subfield in political science, but presses that subfield forward in a dramatic manner.

The AJPS is indebted to its more than 3,500 reviewers who are called on each year. The review process is crucial because I rely heavily on the expertise and advice of the reviewer community. I have been extremely impressed with the care taken by reviewers and the quality of the reviews. The feedback to authors is extraordinary. By the same token, very often the review process may seem to take forever. However, I would rather have a high quality review that I can rely on to make my decision (and to provide feedback to the author) than speed through the review process. Reviewing takes time and energy. I am a proponent of Lee Sigelman's old adage that an author owes (at least) three reviews to the community for every manuscript submitted. I certainly appreciate the time and effort of reviewers. As a small token of our appreciation AJPS will send each reviewer who returns a review on time a code which will be worth 30 percent off on a book from the Wiley-Blackwell listings.

The review process can be slow. I read all manuscripts when they pass a technical check. I am very aggressive in rejecting without review manuscripts that do not fit the AJPS. This may mean manuscripts that are incomplete or manuscripts that are good, but do not fit the criteria I note above. If a manuscript is accepted for review, then my Editorial Assistants will recommend a set of reviewers. We try to get six reviewers for each manuscript, which sometimes means going through a large number before we have the appropriate number. When I make a decision on a manuscript, it is with the advice of reviewers, a re-reading of the manuscript and consulting with Associate Editors if need be. There is no reviewer decision rule guiding whether a manuscript is declined, a request made for a revise and resubmit or accepted. Generally if I ask for a revision, I expect that the manuscript has an excellent chance of being published.

Much has been made of data policies adopted by the AJPS. The policy is simple, if you use data, then the data ought to be made available to the community for reasons of transparency. This not only implies a replication data set for quantitative studies, but also implies that any

qualitative data used to reach conclusions should be made available. Of utmost importance is the ability of the scholarly community to verify, replicate and extend findings published in the AJPS.

In an effort to encourage greater transparency in the production of knowledge I have asked author's to use Supporting Information (SI) in order to detail how concepts were tested, how variables were coded or how evidence-based conclusions were reached. The SI allows authors

to include information that ordinarily might sit in the file drawer, but is valuable to the community seeking to extend the research. To this end the SI is linked electronically to the published article and that link is permanent, following Library of Congress DOI standards.

My goal for AJPS is consistent with the goals of my predecessors: to publish excellent research that significantly adds to our discipline's knowledge. I sincerely hope that you will send me the very best of your research.

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# Valuing Diversity in Political Organizations: Gender and Token Minorities in the U.S. House of Representatives

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*Political scientists are keenly interested in how diversity influences politics, yet we know little about how diverse groups of political actors interact. We advance a unified theory of colleague valuation to address this puzzle. The theory explains how minority group size affects how members of a political organization differentially value majority and minority group colleagues, predicting that the effect of preference divergence on individual-level colleague valuation is greatest when the minority group is smallest. We test this prediction using member-to-member leadership political action committee (PAC) contributions in the U.S. House of Representatives. The results obtain strong, albeit not uniform, support for the theory, demonstrating that the gender gap in colleague valuations declines as preference divergence increases in all but one instance. In contrast to conventional wisdom, the theory and evidence indicate that women serving in the U.S. House of Representatives receive less support from men colleagues as their ranks increase.*

Diversity in political organizations has tremendous normative implications for the quality of political decision making. Diversity matters because members of underrepresented groups bring new sets of skills and outlooks to political problems (Phillips 1991), because diverse groups can often outperform experts (Page 2007), and because including members of underrepresented groups in political decisions is “a precondition for justifying governmental action” (Pitkin 1967, 82; cf. Mansbridge 1999). Because representative bodies act for the plurality of interests in a polity, those with greater diversity enjoy greater public legitimacy (Mansbridge 1999; Mill 1861, chap. 3; Phillips 1991; Pitkin 1967). Statistical evidence reveals that gender diversity in representative bodies translates positively to citizens’ perceived legitimacy of legislative institu-

tions (Burns, Schlozman, and Verba 2001; Lawless 2004; Schwindt-Bayer and Mishler 2005) and also improves substantive representation for women (e.g., Bratton 2002; Schwindt-Bayer and Mishler 2005; Thomas 1991; but see Weldon 2002).

Sociological theories of organizational tokenism claim that when a minority group is very small, it receives special attention from the majority group, attention that stops when the minority’s size increases to the point that it represents a threat to the majority’s standing (Kanter 1977; Laws 1975). Although political scientists have shown that the treatment of women legislators lends support for these theories at the aggregate level (Heath, Schwindt-Bayer, and Taylor-Robinson 2005; Kathlene 1994), little is known about how these group-level phenomena affect individual colleague relationships

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that are vital to the proper functioning of political organizations. These individual-level relationships can be crucial in determining who receives electoral, legislative, and other types of institutional support (e.g., Green and Harris 2006; Polsby 1969). We propose a unified theory of colleague valuation to explain how *individual* members of underrepresented groups, and by extension, members of the majority group, are differentially valued in political organizations. The current theory extends Kanter's (1977) insights via a decision-theoretic model of individual-level colleague valuation applied to the study of representative bodies. The theory predicts that the effect of preference (ideological) divergence on individual-level colleague valuation is greatest when the minority group is smallest because both majority and minority group members place more emphasis on individual-level preference considerations when the minority group is least likely to threaten the status of the majority. When the majority's status is closer to being overturned, group size plays a greater role in colleague valuation, for both majority and minority party members. That is, this study extends the work of Kanter and others in two ways: (1) by integrating the tokenism logic with the effects of preference divergence into a unified theory of colleague valuation and (2) by considering colleague valuations of *both* majority and minority groups separately.

We test the unified theory of colleague valuation by analyzing data on gender differences in member-to-member leadership PAC campaign contributions in the U.S. House of Representatives for the 105<sup>th</sup>–108<sup>th</sup> Congresses. Controlling for electoral and partisan-based contribution patterns allows the data to provide observable evidence of colleague relationships that often go unobserved. The theory obtains strong, albeit not uniform, empirical support. The data also demonstrate that as the theory predicts, the gender gap in colleague valuations declines as preference divergence increases in all instances, except for the amount women donors of both parties contribute to men colleagues. In these exceptional cases, women donors seem to mimic the donation patterns of their majority group colleagues.

## A Unified Theory of Colleague Valuation in Political Organizations

The theory begins with the notion that the valuation of group members in collective bodies depends upon the relative size of the minority group. For instance, men may value women, but not to the extent that their own

majority group status may be threatened. That is, when a minority group is small enough to achieve "token" status, individual members of the minority group tend to stand out among the majority group, thus receiving more attention (Kanter 1977). Because diverse groups tend to produce better outcomes (Page 2007), majority group members have an incentive to ensure that minority group members remain viable when they are endangered. At the same time, though, when a minority group is sufficiently small, its own members will often undermine each other's efforts since they perceive themselves as being in competition for the attention of majority group members (Laws 1975).

Kanter (1977) claims that the experiences of minority group members are far different once the size of the minority attains some threshold. Beyond this threshold, "minority members are potential allies, can form coalitions, and can affect the culture of the group" (Kanter 1977, 966). Once the minority group is sufficiently large, it threatens the benefits that the majority group enjoys (Crowley 2004; Heath, Schwindt-Bayer, and Taylor-Robinson 2005). The theoretical predictions derived from the model are robust to the threshold location, which Kanter (1977) places at 15% based on the workplace she considered, but others argue is much higher in legislatures (Beckwith and Cowell-Meyers 2007; Wolbrecht 2000). The theory predicts that the extent to which minority group members are valued by their colleagues depends upon *differences in marginal utility* attributable to minority group size.

## The Logic of Groups and Tokenism

The theory's first principles capture the relationship between colleague valuations and group membership.<sup>1</sup> Like Kanter (1977), we consider only two groups: a majority/"in" group (Group A) and a minority/"out" group (Group B). What is of utmost importance for the theory is the *marginal utility* Group A members derive from Group B members. In this sense, the Group A member is asking: "Am I better off with or without an additional member of the other group?" When the marginal utility from an additional Group B member is positive, Group A members prefer increasing Group B's size. This implies that, *ceteris paribus*, majority group members value minority group colleagues more highly than they do members of their own group, provided that the minority group is

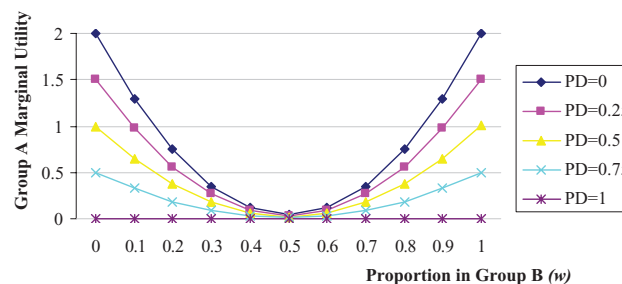
<sup>1</sup>A complete analytical exposition of the theoretical model appears in a Supplementary Technical Appendix.

sufficiently small. As this minority group grows, majority group members receive less utility from their minority colleagues. At some threshold, a specified utility maximum where marginal utility is zero, Group A members will be indifferent between additional Group B members and colleagues from their own group. Should the minority group's size continue to increase, the marginal utility of each minority group member becomes negative. That is, majority group members prefer not to increase the minority group's size because they prefer members of their own group to members of the majority—until the point at which the roles are reversed and Group B becomes the “dominant” majority group.

The theory also has implications for relations between members from the same group. Group B members face negative utility from each additional member of their own group when the percentage of Group B members lies somewhere between zero and the cut-point that differentiates between token and nontoken minority group status. This utility drop stems from the pressure additional minority group members create on the finite supply of benefits the majority group provides for the token minority group. That is, token minorities often see fellow group members as threats to their special status vis-à-vis the majority group (Laws 1975). Yet between the nontoken minority status and dominant majority status cut-points, Group B members receive positive utility from their Group B colleagues since they exceed token status. At that point, they no longer feel threatened by each other and have attained a critical mass necessary for group effectiveness. Beyond its dominant majority status cut-point, Group B's majority status is secure since Group A becomes the new “token” minority. At this point, Group B members value Group A members more than they do their own Group B colleagues.

Combining both *intergroup* and *intragroup* colleague valuation behavior provides us with a complete description of the entire political organization. Assume that Group A is the majority, Group B the minority, within the same larger group. When Group B is small, members of Group A receive positive utility from members of Group B. In contrast, members of Group B actually receive *negative* utility for members of their own group. Yet the marginal utility for each group is changing as the size of Group B increases. Specifically, the marginal utility of each new Group B member decreases for the majority as Group B increases in size, since the majority wishes to maintain its dominant status. On the other hand, the marginal utility of each new Group B member increases for the minority as Group B increases in size. This leads to the following empirically testable hypothesis derived from the theory:

**FIGURE 1 Preference Divergence and Between-Group Colleague Valuations**



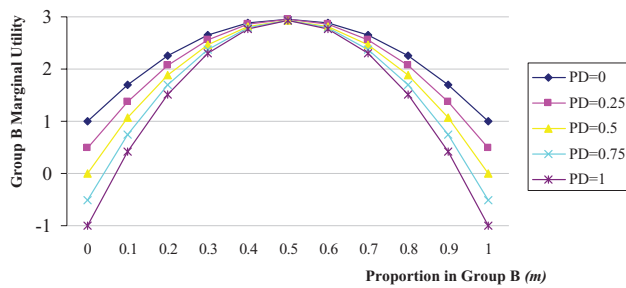
*H1:* Majority group (fellow minority group) valuations of minority group members are negatively (positively) related to minority group size.

### Integrating Preference Divergence Effects into the Logic of Groups and Tokenism

People value colleagues with diverse perspectives, but not necessarily diverse preferences. Different perspectives may provide creative solutions to shared problems, but different preferences may preclude even a shared understanding of what the problems are, thus making collaboration difficult (Page 2007).

To that end, Figure 1 provides a graphical representation of the impact of preference divergence, a measure of this difference in perspectives of two individuals, on the marginal utility a Group A member would obtain from a Group B colleague. Group A members obtain successively lower marginal utility from Group B members as preference divergence between them increases, but this relationship becomes magnified when the degree of tokenism rises, as is the case when Group B is either very large or very small. When Group B is very small, part of the value of Group B members stems from the fact that they pose no threat to Group A's majority status. Yet this value quickly falls as preference divergence increases. When Group B is very small, according to the tokenism (Kanter 1977) logic, working with Group B members reinforces Group A's majority status, but this reinforcement comes only when it is accompanied by Group B's compliance. If a Group B member fails to be sufficiently compliant, the threat to the Group A member does not dissipate, and the utility of the Group A member thereby decreases. At the other extreme, when Group B becomes sufficiently large that it is the dominant majority, utility for a Group A member again falls quickly as preference divergence increases. This is because the now-minority

**FIGURE 2 Preference Divergence and Within-Group Colleague Valuations**



Group A members know that they will accrue tokenism benefits from now-majority Group B members, but only if Group B members view them as compliant. If preference divergence precludes this compliance, Group A members do not receive these benefits, thus precipitating a sharp decline in utility as preference divergence increases.

Figure 2 shows a graphical portrait of the effect of preference divergence on the marginal utility a member of Group B receives from a fellow Group B member. When Group B is very small, token Group B members do not value each other. This devaluation is exacerbated when preference divergence is high. Yet when Group B is very large, a Group B member receives very little benefit from a colleague's status as a Group B member. The only possible benefit is preference proximity. Absent that, utility falls dramatically. Therefore, as preference divergence grows between any pair of members, all members' marginal utility valuation of colleagues, both in the majority and the minority group, will drop at a steeper rate as the degree of minority group tokenism increases, thus implying the following hypothesis:

*H2: Increases (decreases) in minority group size attenuate (exacerbate) the negative impact preference divergence exerts on individual-level colleague valuation decisions for members of both the minority and the majority groups.*

This is because larger minority groups can become a threat to the majority. Under these circumstances, members of both groups become increasingly concerned with the possibility that majority group status may change hands, thus decreasing their relative concern with preferences.

## Gender, Diversity, and Colleague Valuation in the U.S. House of Representatives

To test our unified theory of colleague valuation, we analyze gender-based colleague valuation decisions in the U.S. House of Representatives. Focusing on gender is an appropriate venue for our test because women compose roughly 50% of the population, yet remain minorities in virtually every legislature in the world.<sup>2</sup> Indeed, women have held less than 15% of the seats in the U.S. House of Representatives over the past decade. Further, studies of the U.S. House of Representatives have shown that the ability of women to work together is central to successful policy enactment (Bratton 2002; Thomas 1991). Although the theory is generalizable to other minority groups, those groups are often either simply too small or fail to provide sufficient variation to be analyzed statistically.<sup>3</sup> Similarly, focusing on the U.S. House allows us to take advantage not only of variation in both the proportion of women across parties and across time, but also of measurable variation in preferences, even among legislators of the same political party.

In the case of gender groups in the U.S. House of Representatives, valuation of women House members by men and women colleagues is simply a function of the percentage of minority (women) members of the political party of the woman being valued. We take the political party as the organizational unit of analysis, reflecting that most work in the U.S. Congress takes place within, rather than across, parties (e.g., Cox and McCubbins 1993; Poole and Rosenthal 1997). Moreover, the parties provide variation in their respective proportion of women members during the period under consideration, from a high of 20% for Democrats in the 107<sup>th</sup> Congress, to a low of 8% for Republicans in the 105<sup>th</sup> and 106<sup>th</sup> Congresses. Because clear partisan differences exist in the proportion of women House members, we should expect to observe clear differences in House members' colleague valuation decisions.

<sup>2</sup>While Scandinavian nations with gender quotas have the highest percentage of women legislators in the world, they fall far from enjoying majority status (Phillips 1991, 80–84).

<sup>3</sup>Of course, extending our model to other minority groups is not easy and points to several new avenues for future research beyond the scope of the present study. We follow Kanter (1977) by considering only two groups, but the logic may be different for individuals who have minority status based on both ethnicity or race *and* gender or for minorities of two separate types. Also, racial gerrymandering in the House, coupled with the relative rarity of minorities serving in nonmajority-minority districts, means that minority group size is unlikely to vary.

Further, member-to-member campaign contributions from U.S. House leadership PACs act as an empirical measure of colleague valuation decisions.<sup>4</sup> The data are therefore constructed of donor-recipient dyads in which each leadership PAC donor is paired with each potential recipient of the same political party.<sup>5</sup> Although political parties pressure individual legislators to use leadership PAC contributions to advance the party's aggregate goals (Cann 2008; Heberlig and Larson 2005; Wilcox 1989), personal characteristics also matter (Kanthak 2007). Party-level goals aimed at keeping or winning the majority center on funneling money to marginal districts. Yet these important partisan and electoral factors fail to explain all of the systematic variation in leadership PAC donation patterns. That is, the systematic portion of the remaining variance can provide us with meaningful information regarding individual *latent* colleague valuations.<sup>6</sup>

The analysis does not stand on the claim that these colleague valuation decisions, as reflected by leadership PAC contributions to their colleagues, are significant enough to affect electoral outcomes. Instead, we argue that making a contribution provides a consumption benefit to the donor that is analogous to why citizens vote even though they cannot affect electoral outcomes (Riker and Ordeshook 1968; Uhlaner 1989). In this sense, actors derive utility simply from expressing their preferences (Schuessler 2000). Campaign contribution decisions can thus reveal information about the level of esteem a legislator has for a particular colleague. Similarly, we can think of leadership PAC donations as being akin to gifts meant to augment social exchange relationships by demonstrating support for the existing moral order, and thus creating obligations on the part of recipients (Gouldner 1960; Shrum and Kilburn 1996).

Furthermore, campaign contributions data have two major advantages over other measures of colleague valua-

tion, such as the receipt of committee assignments (Heath, Schwindt-Bayer, and Taylor-Robinson 2005), party leadership positions, or both (Frish and Kelly 2003). First, campaign contributions are much less subject to availability constraints, unlike the assignment of a limited number of coveted positions in the legislature that is constrained by both a (weakening) seniority norm and committee property rights that are in effect (Katz and Sala 1996; Polsby 1968). Not one leadership PAC included in the data set ended an election cycle penniless. In this sense, although minority group members may perceive that they are in competition with each other for attention from the majority, we can be assured that contribution decisions are largely independent from each other. Second, because the theory is rooted in individual campaign contribution decisions as a means of gauging colleague valuation, using member-to-member donations avoids an ecological fallacy problem, which would arise if we were to test our individual-level theory by considering whether a particular group receives more valuable positions than another group. The theory posits that preference divergence between legislators affects colleague valuation decisions, necessitating the consideration of dyadic valuations among *individual* legislators, rather than their *aggregate* valuations.

About 20% of members of Congress (MCs) control leadership PACs in the period considered. Although the decision to create a leadership PAC is unlikely to be related to gender-based colleague valuations, if the behavior of this subset of MCs differs from that of their colleagues without leadership PACs, the results may not be generalizable to the membership as a whole. Despite this, those legislators who do opt to create leadership PACs are signaling their desire to enter or remain in leadership positions. If there are systematic differences between legislators aspiring to the leadership and their colleagues who are not so ambitious, the analysis includes colleague valuation information about the more important of these two groups. Members who already have or seek leadership posts are exactly the legislators who are crucial in providing institutional support. That is, unlike their colleagues without leadership PACs who may remain permanently on the back bench, members with leadership PACs play a critical role in their colleagues' professional development and career advancement.

Thus, we can restate our hypotheses as follows:

*H1:* Men's (women's) frequency and size of leadership PAC contributions are negatively (positively) related to the proportion of women in the party.

*H2:* Increases (decreases) in the proportion of women in the party attenuate (exacerbate) the negative impact

<sup>4</sup>We focus solely on leadership PAC contributions for two reasons. On a theoretical level, we must be able to assume that the choice whether or not to contribute, and how much, is based at least in part on colleague valuation. On a methodological level, a personal contributions data set would consist of a great many donor-dyad observations, with only a small handful of nonzero observations that constitute trivial dollar amounts relative to leadership PAC contributions.

<sup>5</sup>Given that leadership PACs exist largely for electoral and partisan-based reasons, cross-party contributions occur with extreme rarity.

<sup>6</sup>Because our theory pertains solely to valuation decisions regarding *existing* colleagues within a political organization, we only consider those contributions made to incumbents. For theory and evidence explaining gender-based donation pattern differences made to Senate incumbents and challengers, please see Kanthak and Krause (2010).

preference divergence exerts on the frequency and size of leadership PAC contributions for both men and women potential donors.

## Testing the Unified Theory of Colleague Valuation in Political Organizations

Employing leadership PAC contributions for the U.S. House of Representatives for the 105<sup>th</sup>–108<sup>th</sup> Congresses, we empirically model legislators' individual-level colleague valuation decisions in two complementary ways. First, we analyze the impact of preference divergence between donor and recipient in each dyad on colleague valuation decisions, conditional on the proportion of members of the recipient's group (denoted by  $w$ ) for donor-recipient dyads in which the donor and recipient are of *different* genders (*Between-Group Models*). Next, we analyze the impact of preference divergence between donor and recipient in each dyad on colleague valuation decisions, conditional on the proportion of members of the recipient's group (denoted by  $m$ ) for *same* gender donor-recipient group dyads (*Within-Group Models*). This research design allows us explicitly to test the heterogeneous conditional effects of relative recipient group size on legislator valuation decisions.

The analysis necessitates consideration of two key statistical modeling issues. First, membership valuation, the dependent variable, is operationally defined as leadership PAC contributions. We treat a zero contribution by donor  $i$  as a corner solution to their optimization problem via a natural logarithmic transformation of the dollar amount of leadership PAC contributions made by donor ("valuator")  $i$  to recipient ("valutee")  $j$  either *between* or *within* group members for election cycle  $t$ , plus a scalar of positive unity—i.e.,  $\ln(C_{D_{it} \rightarrow R_{jt}}^{BG} + 1)$  and  $\ln(C_{D_{it} \rightarrow R_{jt}}^{WG} + 1)$ , respectively. This transformed measure not only eliminates the possibility of zero contributions as representing unobserved negative contributions (Wooldridge 2002, 518–21), but is also consistent with an optimization problem subject to a nonnegativity constraint such that  $C_{D_{it} \rightarrow R_{jt}}^{BG}, C_{D_{it} \rightarrow R_{jt}}^{WG} \geq 0$  by definition.<sup>7</sup> Second, we account for both left-censoring and

<sup>7</sup>Modifying Wooldridge's (2002, 518–19) analytical treatment for purposes of our statistical modeling enterprise, we assume a generic utility function given as:

$$U_{it \rightarrow jt}(C_{D_{it} \rightarrow R_{jt}}, q) = q \ln(1 + C_{D_{it} \rightarrow R_{jt}}) - C_{D_{it} \rightarrow R_{jt}},$$

where  $q$  is merely assumed to be generic for notational simplicity purposes. The optimal contribution for donor  $i$  to recipient  $j$  dur-

sample selection problems that plague the statistical analysis of campaign contributions data through the use of a double hurdle model with independent errors between equations (Cragg 1971; Wooldridge 2002, 536–38). This statistical model is simply a generalized Tobit that relaxes the restrictive assumption of coefficient equality between the donation decision and positive donation amount equations.<sup>8</sup> This model consists of a binary *donation decision* ( $DD$ ) estimated as a Probit equation, and a *donation amount* ( $DA$ ) for those members making a positive donation, which we estimate using a truncated normal regression equation.

We estimate a pair of double hurdle models to test the theory's predictions concerning the joint consequences of preference divergence and gender composition for both *between-group* ( $BG$ ) and *within-group* ( $WG$ ) colleague valuation decisions.<sup>9</sup> Each double hurdle model analyzes the probability of a positive donation decision being made between (or within) gender groups estimated via Probit, and the expected value of the natural log of positive donations being made between (or within) gender groups estimated by truncated normal regression. Colleague valuation decisions are represented as a combination of the group size variable—i.e., the percentage of recipient gender group members (denoted by  $w$  in *between-group* models;  $m$  in *within-group* models)—and preference divergence between the donor and recipient.<sup>10</sup>

ing election cycle  $t$  is given by:  $C_{D_{it} \rightarrow R_{jt}}^* + 1 = \max\{1, q\}$ . If the donor's utility increases by  $q$  and is exponentially related to a  $k^{\text{th}}$  set of exogenous covariates and error term following a normal distribution such that  $D_{it} \rightarrow R_{jt}$ , then  $q = \exp(Z_k \beta_k + v_{it \rightarrow jt})$ . Taking natural logs on both sides of the optimal contribution for donor  $i$  yields the semi-logarithmic (log-lin) functional form utilized in our statistical modeling:

$$\ln(C_{D_{it} \rightarrow R_{jt}}^* + 1) = \max\{0, Z_k \beta_k + v_{it \rightarrow jt}\}.$$

<sup>8</sup>The double hurdle model is equivalent to the Tobit model when  $\zeta_{\text{Probit}} = \frac{\zeta_{\text{Tobit}}}{\sigma_{\text{Tobit}}}$ —i.e., the coefficient vectors (adjusted for the standard deviation in the Tobit model's residuals) are equal. A likelihood ratio test can be computed differentiating between these two models (see Greene 2003, 770). This test statistic is computed as:

$$\Lambda = -2[\ln L_{\text{Tobit}} - (\ln L_{\text{Probit}} + \ln L_{\text{Truncated}})] \sim \chi_{\alpha}^2(k),$$

where the null hypothesis of coefficient vector equality is rejected when  $\Lambda > \chi_{\alpha}^2(k)$ .

<sup>9</sup>See the Supplementary Technical Appendix for the mathematical representation of these double hurdle statistical models, which are derived directly from equations (A-7) and (A-13) of that model for the *between-* and *within-group* cases, respectively. This pertains to the independent variables of theoretical interest comprising  $2(1 - PD) * \text{Group Size}$  for the between-group models and  $2(1 - PD) * \text{Group Size}$  for the within-group models.

<sup>10</sup>In all instances, the squared recipient group size variable (denoted by  $w^2$  and  $m^2$ ) is dropped from the statistical models since the recipient group size for such valuation decisions are not observed



The preference divergence measure is simply the squared normalized ideological distance<sup>11</sup> between the donor and recipient's first-dimension DW-Nominate scores (Poole and Rosenthal 1997)—i.e.,  $PD_{ij,t} = (x_{D_{i,t}} - x_{R_{j,t}})^2$ , the interaction between these variables, a binary dummy variable accounting for women-men donor differences (denoted by  $WD$ , where  $WD = 1$  for women donors,  $WD = 0$  for men donors) and its interaction with relative group size and preference divergence variables; a generic  $k^{th}$  dimension  $X$  vector of ancillary control variables at election cycle  $t$  comprising donor-specific effects, recipient-specific effects, donor-recipient dyadic specific effects, plus a disturbance term. Because the data include multiple observations per donor-recipient dyad which are likely not independent across election cycles, robust standard errors clustered on dyad are reported.<sup>12</sup>

### Ancillary Control Variables

Also included are several variables that are likely to be related to the valuation of a colleague, but unrelated to the theoretical predictions.<sup>13</sup> First, several variables indicate that legislators might, *ceteris paribus*, be more likely to

for moderate  $w$ ,  $m$  values because women (men) compose anywhere between roughly 7.62% and 19.72% (80.28% and 92.38%) of House members within each party.

<sup>11</sup>In accordance with the theoretical treatment of preference divergence, we convert our empirical measures into proportions that range between 0 and 1 by simply dividing all values through the scalar of the maximum observed value in our sample. Therefore, when  $D = 0$ , legislators' policy preferences are identical, while at  $D = 1$ , we observe the maximum amount of intra-partisan ideological distance between donor and recipient found in our sample. Ron Paul (R-TX) is omitted from our sample since he is an extreme ideological outlier.

<sup>12</sup>Allowing for donor-recipient dyadic dependence means that we should not expect legislator  $i$ 's campaign donation to legislator  $j$  in election year  $t$  will be independent of this decision between these individuals in other election years covered in our sample period. In auxiliary statistical analysis, we also estimated models where robust standard errors were clustered separately on donor and recipient, respectively. This is because clustering on small dimensions (such as recipient-donor dyads where  $n = 4$ ) commonly suffers from TYPE II inferential errors (e.g., Wooldridge 2003). These auxiliary results based on clustering on a larger dimension in the form of donor *or* recipient are substantively identical to those reported here utilizing robust standard errors clustered on donor-recipient dyad.

<sup>13</sup>We do not include the proportion of members of the recipient's group linearly on both theoretical and empirical grounds. First, the theory is clear that the group size effect is conditioned on preference divergence. (See Figures 1 and 2 in the article and Equations [A-7] and [A-13] in the Supplementary Technical Appendix.) Because of this, a statistical model that includes group size linearly fails to be isomorphic in relation to the posited theoretical model, thus precluding us from properly testing the empirical implications from this theoretical model. Second, including group size in the model introduces severe multicollinearity into the model, which is unsur-

prising since our variables of theoretical interest are constructed from group size interacted with preference divergence. Indeed, the multicollinearity is so severe that the group size variables have enormous variance inflation factors (VIFs). Whereas a VIF greater than 10 is generally thought to be cause for concern (Kennedy 1996, 183), these variables have for the between-group model, VIFs of 44,130 for the group size variable interacted with gender and 9,683 for the group size variable, and for the within-group model 1,668 for the group size variable interacted with gender and 1,050 for the group size variable.

donate to those colleagues who have personal characteristics other than gender which the potential donor might find valuable. For this reason, included are two binary variables, *Same State*, coded 1 if the donor and potential recipient represent the same state, 0 otherwise, and *Same Region*, coded 1 if the donor and potential recipient represent the same region,<sup>14</sup> 0 otherwise. Also included is a dichotomous variable, *Same Committee*, coded 1 if the donor and potential recipient work together on at least one congressional committee, 0 otherwise. Second, the logged total amount the leadership PAC gave, *Total*, is included. Leadership PACs vary greatly in size, from California Representative Douglas Ose's *Sacramento Valley Leadership Fund*, which gave \$409 in 2004, to the two largest PACs in the data, helmed by current Speaker Nancy Pelosi, who gave \$1,025,000, and former Majority Leader Tom DeLay, who gave \$1,024,355, both in 2002. The expectation is, of course, that a larger leadership PAC will both be more likely to make a donation and to make larger donations than a smaller leadership PAC.

Also incorporated is a series of ancillary variables that account for the fact that the central purpose of leadership PACs is to keep or secure the House majority for their parties. Indeed, there is evidence that parties take into account leadership PAC behavior when determining who receives choice leadership positions (Cann 2008; Kanthak 2007). In other words, donors are likely to make contributions to colleagues in danger of losing their seats, regardless of whether or not they value those colleagues based on their ideology and gender. To that end, four variables measure this danger. First is *Election*, indicating the percentage of the electoral vote the potential recipient received in the preceding election cycle. Second, *In Play* is a measure that *CQ Weekly* compiles of those districts most likely to have a close race. The variable is coded 1 if *CQ Weekly* lists it as being close, 0 otherwise. *Incumbent Spending* and *Challenger Spending* measures account for the total campaign spending by the two major political parties in the general election contest.

Also included is a binary variable, *Power Committee*, coded 1 if the potential recipient has a position on

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<sup>14</sup>We use the region definitions adopted in the ICPSR state coding scheme. The regions are East, Midwest, West, and South.

one of the three committees traditionally considered the most powerful in the House: Appropriations, Rules, and Ways and Means (Groseclose and Stewart 1998). This is because legislators with such choice committee assignments are less likely to need leadership PAC donations to win elections, regardless of a donor's valuation. For similar reasons, *Leader*, coded 1 if the potential recipient has a party leadership position, 0 otherwise, is included.<sup>15</sup> *Years* is a variable that reflects the logged number of years a potential recipient has served in the House. Again, legislators with longer tenures in the House face a lower probability of losing their reelection bids and are therefore less reliant on leadership PAC contributions, regardless of a donor's colleague valuation decision. This variable is log transformed because electoral safety is likely to increase nonlinearly as the number of years in the House increases. In other words, the difference in electoral safety between legislators who have won two elections as compared with those who have won three elections is likely to be great, whereas the difference between those who have won 10 elections and those who have won 11 elections is minimal.<sup>16</sup> Also included is a binary variable, *Retire*, coded 1 for those candidates who are not, for whatever reason, seeking reelection to their House seat, 0 otherwise. Certainly, those legislators who are not seeking reelection do not need funds to help secure that reelection. Finally, a partisan donor dummy (coded 1 for Democratic donors, 0 for Republican donors) is designed to ensure that the effect of relative gender group size is not confounded by unobserved partisan differences. Specifically, the partisan donor dummy variable accounts for any potential independent majority party (Republican) bias that may exist.

Last, two control variables account for other potential explanations of leadership PAC contribution behavior that are independent of the theory. The first is *Size of Party*, the total number of legislators in the party, which accounts for the notion that members of smaller parties may give more contributions in general, in an effort to protect or enlarge their size. The second measure, *Change in the Number of Women*, is simply the difference between the number of women in each party in the current Congress vis-à-vis the preceding Congress. Changes in gender composition may prompt legislators to protect the status quo composition by giving to members of their own group (predicting a positive value for the within-

group statistical models), but not to others (predicting a negative value for the between-group statistical models).

## Statistical Findings

Results from the double hurdle regression analysis of U.S. House leadership PAC contribution decisions are presented in Table 1. In both the *between-group* and *within-group* gender composition models, the significant likelihood ratio test indicates that the double hurdle model is preferable to the Tobit model. Among the ancillary control variables,<sup>17</sup> two statistically significant patterns clearly indicate that in explaining colleague valuations, individual considerations play a strong role alongside partisan and electoral concerns. First, personal relationships clearly affect both the probability of receiving a donation and the size of that donation, if one is made (see Kanthak 2007). More specifically, *Same Committee* is statistically significant in all four regressions and *Same State* is significant in all but one. *Same Region* is significant in two of the four regressions. Second, MCs serving in leadership positions are more likely to obtain leadership PAC donations from their colleagues, yet the contribution amount for those receiving donations is significantly less compared to their less-powerful colleagues. This finding suggests that by virtue of their position, party leaders receive a financial tribute of sorts from their colleagues, but that the tribute itself need not be large.

Statistical testing of the theoretical model reveals that the typical full preference divergence (PD) effect exerts a negative, significant impact on men donors' likelihood of making a donation to both women colleagues (*Between-Group Model*: Decision eq.  $-1.52 + -0.96 = -2.48$ ;  $\chi^2(1) = 7.26$ ,  $p = 0.007$ ) and men colleagues (*Within-Group Model*: Decision eq.  $0.001 + -0.93 = -0.929$ ;  $\chi^2(1) = 9.89$ ,  $p = 0.002$ ). Consistent with the theory, both results indicate that as gender group size and preference divergence increase, men donors value colleagues from both gender groups less, supporting H2. Interestingly, once a man donor decides to make a contribution to either a woman or a man colleague, there is no significant relationship between the average level of preference divergence and the typical amount of contributions. This suggests that men House members, on average,

<sup>15</sup>We define leadership positions as those positions outlined in the "Leadership" section of the relevant edition of the *Almanac of American Politics* covering 1998–2004.

<sup>16</sup>Analysis using the base number of years served rather than the logged number of years yields the same substantive results as those reported here.

<sup>17</sup>The table omits four control variables for space. All are positive and significant in three of the four regressions. The exception is the within-group truncated regression, where *CQ Weekly* and *Ln (Total PAC gifts)* are positive and significant, *Challenger Spending* is negative and significant, and *Incumbent Spending* fails to achieve statistical significance.

**TABLE 1** *Between-Group and Within-Group Models of Colleague Valuation in the U.S. House of Representatives (105<sup>th</sup>–108<sup>th</sup> Congresses)*

Independent variable	Between-Group Model		Within-Group Model	
	Decision	Amount	Decision	Amount
2(1–PD) * Group Size (–)	–0.9585* (0.6833)	0.9445 (0.8926)	–	–
2(1–PD) * Group Size * Woman Donor (+)	–1.002 (1.263)	–0.1233 (1.690)	–	–
2(1+PD) * Group Size (–)	–	–	–0.9098** (0.3203)	–5.699** (0.4159)
2(1+PD) * Group Size * Woman Donor (+)	–	–	1.265* (0.8554)	8.252** (0.9941)
Preference Divergence (PD)	–1.513** (0.3684)	0.1219 (0.6794)	0.0007121 (0.5750)	8.945** (0.7125)
PD * Woman Donor	–3.258** (1.339)	1.394 (1.758)	–0.5131 (0.9232)	–10.75** (1.109)
Woman Donor	3.261** (1.269)	–1.061 (1.701)	–1.747** (0.6564)	–10.46** (0.8272)
Party	–0.04764 (0.1465)	–0.2135 (0.1944)	–0.3050** (0.0810)	–0.4545** (0.1066)
Recipient on Power Committee	–0.01566 (0.05432)	–0.06309 (0.06486)	0.03423* (0.02386)	0.07662** (0.03873)
Recipient in Leadership	0.2068** (0.06485)	–0.5615** (0.1112)	0.3496** (0.03303)	–1.103** (0.06941)
Recipient Not Running for Reelection	–0.9734** (0.1501)	–0.2051* (0.1286)	–0.7704** (0.05853)	–0.3126** (0.09898)
Recipient's Percent of Vote in Last Election	–3.832** (0.3359)	–1.401** (0.3384)	–2.468** (0.1163)	–1.820** (0.1487)
Ln(Recipient # of Years Served)	–0.1799** (0.02977)	0.1007** (0.03225)	–0.2848** (0.01277)	–0.01927 (0.01818)
Recipient and Donor on Same Committee	0.1536** (0.05171)	0.1209** (0.0609)	0.1755** (0.02353)	0.1105** (0.03420)
Recipient and Donor from Same Region	0.01770 (0.04817)	–0.01204 (0.05174)	0.04454** (0.02154)	0.04626* (0.03006)
Recipient and Donor from Same State	0.06352 (0.09970)	0.4394** (0.1186)	0.2913** (0.04396)	0.2272** (0.06711)
Size of Party	0.003397 (0.004719)	–0.01498** (0.005938)	–0.01145** (0.002438)	0.01067** (0.003414)
Δ Number of Women	–0.02435** (0.007555)	0.02259** (0.009887)	0.02975** (0.004442)	0.03485** (0.006429)
Constant	–3.667** (1.0799)	4.975** (1.317)	0.9481 (0.8030)	11.53** (1.085)
Log Pseudo-Likelihood	–3044	–1498	–13210	–6485
$\Lambda \sim \chi^2$ (k) Tobit Test Restriction		4886** [0.000]		16550** [0.000]
N	15,363	1351	58,403	5078

± Robust standard errors clustering on donor/recipient dyad. Values inside brackets represent probability values. Some control variables omitted for space. See note 17 for more information.

\*\*p < 0.05 (one-tail test). \*p < 0.10 (one-tail test).

discriminate among colleagues based on gender and preference divergence when deciding whether or not to contribute to their colleagues, but not when determining the size of the contribution. The *within-group model* statistical evidence for both the donation decision and amount equations provides additional credence to the theory by indicating that as the proportion of women in a given party increases, the sanction for preference divergence decreases. When the minority group becomes large enough, preference divergence decreases in importance as the threat to majority status increases. In short, these statistical results reveal that the hypothesized preference divergence effects among U.S. House members are, in fact, heavily contingent upon variation in the recipient's gender group size.

A set of simulations based on these estimated double hurdle regression models better illuminates the substantive nature of the statistical estimates, depicting how well our data capture the theoretical relationships portrayed in Figures 1 and 2. Such simulations are especially necessary to perform because the model specifications required for testing the theory are rather complex. The analysis depicts an MC's donation decision as having two distinct stages. We calculate simulated effects from both the Probit regression equations predicting the probability of any donation being made, and the truncated normal regression equations predicting the dollar amount of a donation, conditional on a donation being made. All control variables are set at their mean values, thus allowing us to assess the varying impact of both preference divergence and gender group size on colleague valuation decisions for both men and women donors.

Figures 3 and 4 display the simulations of both the donation decision and dollar amount choices U.S. House members with leadership PACs made, based on the *between-group* (Figure 3) and *within-group* (Figure 4) models appearing in Table 1. Figure 3A displays how the likelihood of an MC making a contribution to a colleague is affected by variations in preference divergence, conditioned by group size. The lines on the left-hand side of Figure 3A represent men donors' decision regarding women colleagues, while the lines on the right-hand side represent women donors' decision with respect to men colleagues. Consistent with the theory, increasing preference divergence (PD) results in a lower likelihood of a positive donation decision for both men and women donors (supporting *H2*), and men donors devalue women colleagues less for preference divergence when the minority's group size ( $w$ ) increases (supporting *H1*). As the PD variable goes from 0 (min value) to 1 (max value) for the average proportion of Republican women in the sample ( $w_{\text{Republican Women}} = 0.082$ ), the expected probability of a

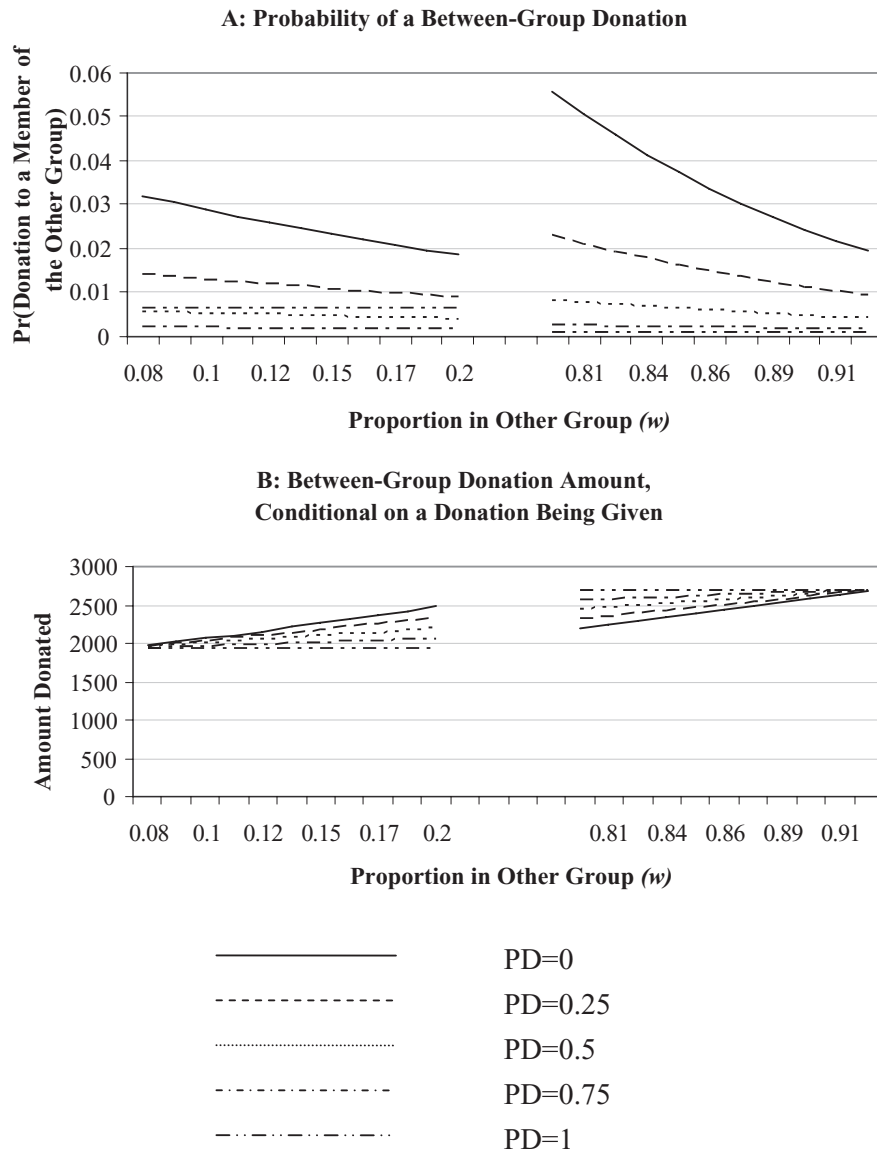
Republican man providing a leadership PAC donation to a woman colleague falls from 3.73% to 0.064%. While this drop may seem rather small in absolute terms, one must remember that the data, given their dyadic design, include only a small proportion of positive donation decisions. In fact, this translates to a substantively meaningful effect of reducing the expected number of leadership PAC donations from about 295 to approximately 5!<sup>18</sup> Further, the effect is similar to that of a legislator moving ideologically from directly on a colleague's ideal point to a position equivalent to 25% of the furthest distance a legislator can be.

Conversely, when we observe PD rising from 0 to 1 at the average proportion of Democratic women in the sample ( $w_{\text{Democratic Women}} = 0.1752$ ), the expected probability of a Democratic man providing a leadership PAC donation to a woman colleague falls from 3.05% to 0.064%—or a drop from 241 donations to about 5 donations. The average difference in expected likelihood of receiving a contribution between Democrats and Republicans, given their different proportions of women, is a maximum of about 54 donations when  $PD = 0$  and a minimum of 0 when  $PD = 1$ . Women donors in Figure 3A also show that preference divergence results in a lower likelihood of providing campaign support to a colleague, supporting *H2*. Interestingly, though, the effects for women donors are the opposite of the theory's predictions for *H1*. That is, women donors sanction men donors *more* as the proportion of women decreases. Given the average partisan difference in the proportion of men colleagues ( $w_{\text{Republican Men}} - w_{\text{Democratic Men}} = 0.918 - .8248 = 0.0932$ ), this means that Republican women are much more inclined to devalue men colleagues compared to their Democratic women counterparts. On average, Democratic women are anywhere from 14% ( $PD = 0.75$ ) to 90% ( $PD = 0$ ) more likely to provide men colleagues with leadership PAC donations compared to their Republican women counterparts for Republican men. The theory predicts that a large minority group sanctions the majority group at a growing rate as the minority is increasingly able to support each other and decreasingly reliant on assistance from the majority. The opposite is, in fact, true.

The simulations for expected donation amount from those instances in which a position donation was made for the *between-group* model appear in Figure 3B. Although

<sup>18</sup>The expected change in the number of positive donations between any pair of expected probabilities of a positive donation is  $(N_{ij} * \hat{p}_{ij1}) - (N_{ij} * \hat{p}_{ij2})$ , where  $N_{ij}$  is the relevant number of donor-recipient dyad observations for the  $i^{\text{th}}$   $j^{\text{th}}$  donor-recipient gender grouping and  $\hat{p}_{ij1}$ ,  $\hat{p}_{ij2}$  represent the corresponding expected probability estimates of a positive donation being made.

**FIGURE 3 Between-Group Model Simulated Effects of Group Size and Preference Divergence on U.S. House Colleague Valuation Decisions**



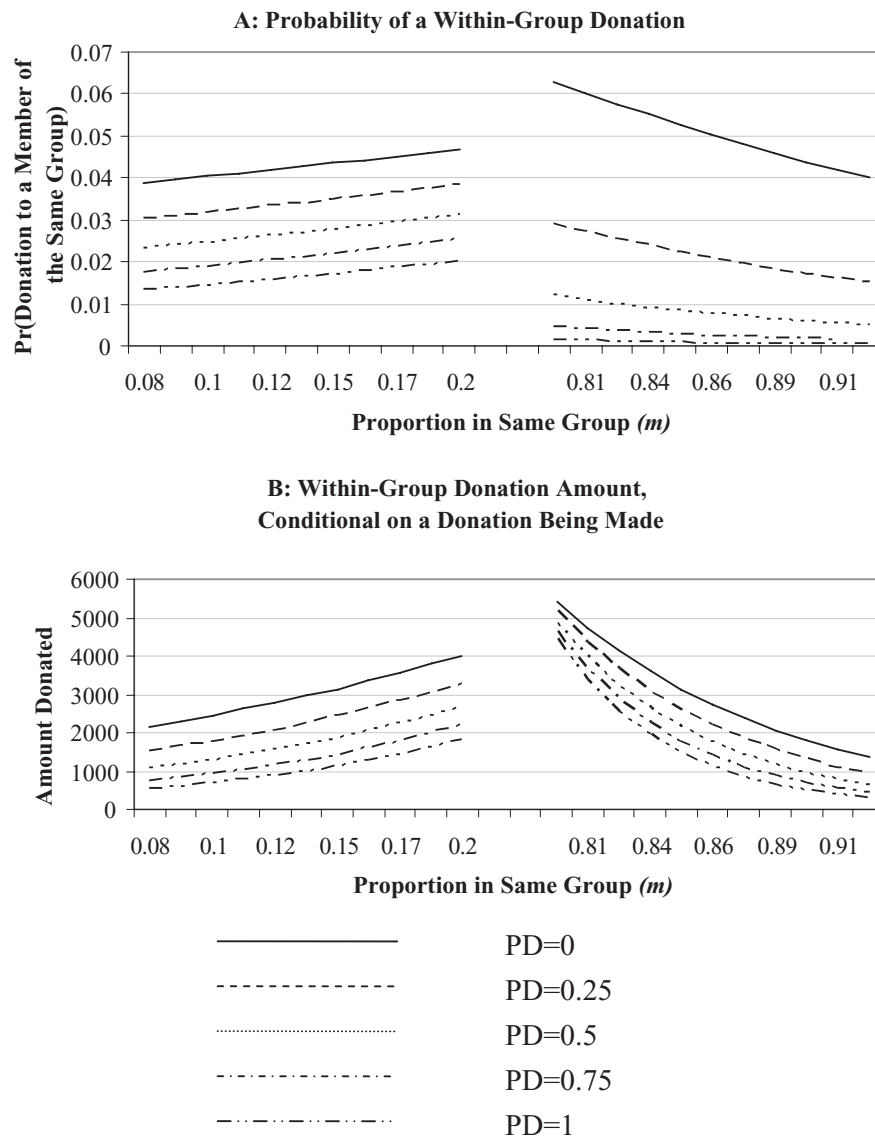
Note: All control variables are set to their mean values when performing the above simulations.

preference divergence has a modest negative impact on men donors' valuation decisions (supporting *H2*), the conditional group size effects are opposite of what the theory predicts in *H1*. Specifically, women group size exerts a weak positive effect on the expected contribution amount for these truncated observations from men donors. Yet, the substantive magnitude of these effects ranges between \$0.00 (PD = 1) and \$222.40 (PD = 0). At best, this is a very modest effect given that this represents only 11.12% of the typical (median) men dona-

tion amount to women colleagues observed in the sample ( $\$222.40/\$2000 = 0.1112$ ).<sup>19</sup> This inconsequential effect suggests that although men take into account both preference divergence and group size when making their

<sup>19</sup>The key frequency distribution statistics for the truncated measure of dollar contribution amounts from *men donors* to *women recipients* are as follows: minimum: \$79; 1<sup>st</sup> percentile: \$79; 5<sup>th</sup> percentile: \$500; 25<sup>th</sup> percentile: \$1,000; 50<sup>th</sup> percentile (median): \$2,000; 75<sup>th</sup> percentile: \$5,000; 95<sup>th</sup> percentile: \$10,000; 99<sup>th</sup> percentile: \$11,000; maximum: \$50,000.

**FIGURE 4 Within-Group Model Simulated Effects of Group Size and Preference Divergence on U.S. House Colleague Valuation Decisions**



Note: All control variables are set to their mean values when performing the above simulations.

initial decision to make a leadership PAC donation to a colleague, these factors hold little sway in their subsequent decision regarding the amount to donate. At the same time, women donors' leadership PAC contribution behavior provides evidence for the theory's predictions for both preference divergence and group size effects on colleague valuation decisions. Increasing preference divergence results in a decline in the expected donation amount when one is made. Further, women MCs lend greater support to men colleagues as the ranks of women increase. One possible explanation for this finding is that

women react to decreasing support from men not by joining ranks with each other as the theory would predict, but rather by trying to diffuse the threat they pose to men in an attempt to maintain the benefits they receive from men via their token minority status.<sup>20</sup> At a given level of preference divergence, changes in the

<sup>20</sup>Accruing particularistic benefits for their legislative districts may serve as another strategic explanation for understanding why women are more supportive of men colleagues when the former's ranks grow. But because we control for both electoral margin and safe seat considerations in our statistical analyses, this alternative

proportion of men colleagues from the mean Democratic proportion ( $w_{Democratic\ Men} = 0.8248$ ) to mean Republican proportion ( $w_{Republican\ Men} = 0.918$ ) increase the absolute donation amount by anywhere from \$0.00 (PD = 1) to \$344.00 (PD = 0) per recipient. In relative terms, this conditional group size effect on donation amount is rather modest given that the simulated maximum effect accounts for only 17.20% of the typical (median) women donation amount to men colleagues observed in the sample ( $\$344/\$2000 = 0.1720$ ).<sup>21</sup> In essence, variations in the gender composition of Congress yield a sizeable impact on *between-group* colleague valuation decisions regarding the decision to make a leadership PAC donation. Once an MC decides to make such a donation, however, the donation amount is weakly conditioned by the degree of preference divergence between donor and recipient.

The simulation results for the *within-group* model provide even more compelling support for the theory's predictions relative to the *between-group* model evidence. Figure 4A displays how the likelihood of an MC making a contribution to a colleague is affected by variations in preference divergence, conditioned by gender group size, for the *within-group* model. The lines on the left-hand side of Figure 4A represent women donors' decision with respect to fellow women colleagues, whereas the lines on the right-hand side represent men donors' decision with respect to fellow men colleagues. The simulation evidence supports the theory: for a given level of preference divergence, women House members are more likely to support a fellow woman colleague via a leadership PAC donation as the proportion of women rises, so long as  $PD < 1$ . As preference divergence increases for the average proportion of Republican women members ( $m_{Republican\ Women} = 0.082$ ) from  $PD = 0 \rightarrow PD = 1$ , we observe an expected probability of a donation being made declining from 3.69% to 1.16%. This constitutes an expected decline of 30 donations being made—which is about a 31% drop in relation to the baseline (null) total number of observed women leadership PAC donations in relation to women colleagues (98 donations). Similarly, as preference divergence increases for the average proportion of Democratic women members ( $m_{Democratic\ Women} = 0.1752$ ) from  $PD = 0 \rightarrow PD = 1$ , the expected probability of a leadership PAC donation being made declines

explanation does not account for this gender-based pattern observed in these data.

<sup>21</sup>The key frequency distribution statistics for the truncated measure of dollar contribution amounts from *women donors* to *men recipients* are as follows: minimum: \$225; 1<sup>st</sup> percentile: \$500; 5<sup>th</sup> percentile: \$500; 25<sup>th</sup> percentile: \$1,000; 50<sup>th</sup> percentile (median): \$2,000; 75<sup>th</sup> percentile: \$5,000; 95<sup>th</sup> percentile: \$10,000; 99<sup>th</sup> percentile: \$10,000; maximum: \$15,000.

from 3.96% to 1.37%. This yields an expected decline of about 31 positive donations—which is slightly more than a 31% fall from the baseline (null) total number of observed donations for women to women colleagues (98 donations).

Compared to the women donor within-group effects, Democratic men donors devalue fellow partisan men colleagues more heavily for both preference divergence and as their own gender group size increases. As preference divergence increases for the average proportion of Democratic men members ( $m_{Democratic\ Men} = 0.8248$ ) from  $PD = 0 \rightarrow PD = 1$ , we observe an expected probability decline of a positive donation being made from 5.81% to 0.11%. This constitutes an expected decline from 3,323 to 63 donations being made—which is just over a 65% drop from the null baseline total number of observed positive donation decisions for men to men colleagues (4,984 donations). Republican men donors sanction partisan men colleagues roughly similarly to both Republican and Democratic women donors. As preference divergence increases for the average proportion of Republican men members ( $m_{Republican\ Men} = 0.918$ ) from  $PD = 0 \rightarrow PD = 1$ , we observe an expected probability of a leadership PAC donation being made declining from 4.09% to 0.03%. This constitutes an expected decline from 2,340 to 17 donations, or approximately a 47% reduction in relation to the baseline (null) total number of observed positive donation decisions for men to men colleagues (4,984 donations). These findings clearly reveal that the gender composition of Congress conditionally affects the extent to which partisan colleagues are willing to support one another.

Figure 4B provides the simulation results for the amount donated, conditional on a positive donation decision, for the *within-group* model. Both women and men donor funding levels are consistent with the theory's predictions. When  $PD = 0$ , the typical Republican woman donor contributes \$2,234, while her Democratic counterpart donates \$3,595. Substantively, this \$1,361 partisan difference, attributable to the proportion of women, is meaningful. It constitutes 68.05% of the typical (median) woman donation amount to a fellow woman colleague ( $\$1,361/\$2,000 = 0.6805$ ).<sup>22</sup> This partisan difference in leadership PAC contribution amounts declines as  $PD \rightarrow 1$ . The impact of preference divergence on women donor valuation decisions is sharp for both Democratic and

<sup>22</sup>The key frequency distribution statistics for the truncated measure of dollar contribution amounts from *women donors* to *women recipients* are as follows: minimum: \$500; 1<sup>st</sup> percentile: \$500; 5<sup>th</sup> percentile: \$500; 25<sup>th</sup> percentile: \$1,000; 50<sup>th</sup> percentile (median): \$2,000; 75<sup>th</sup> percentile: \$5,000; 95<sup>th</sup> percentile: \$10,000; 99<sup>th</sup> percentile: \$10,000; maximum: \$10,000.

Republican women. As  $PD = 0 \rightarrow PD = 1$ , the estimated Republican and Democratic women donors' contribution amount falls by nearly \$1,679 and \$2,156, respectively. Men donor contribution amount effects are more sensitive to these gender group size effects than women donor amounts. When  $PD = 0$ , the typical Democratic man donor contributes \$4,227, whereas his Republican counterpart donates an average of \$1,461. This partisan difference, based on the proportion of men, is meaningful since it accounts for 138.3% of the typical (median) men donation amount to fellow men colleagues ( $\$2,766/\$2,000 = 1.383$ ).<sup>23</sup> Once again, the average partisan difference in leadership PAC contribution amounts declines as  $PD \rightarrow 1$ . The impact of preference divergence on men donor valuation decisions is milder compared to women donors. As  $PD = 0 \rightarrow PD = 1$ , the estimated Democratic and Republican men donors' contribution amount falls by nearly \$1,547 and \$1,141, respectively. Given that the typical man donor leadership PACs' median donation amount is \$3,257, this effect highlights the stylized fact that men House members devalue same-gendered colleagues less for preference divergence than they do women House members. On average, Democratic women donors sanction fellow women colleagues by roughly 18% more than their Democratic men counterparts do ( $[\$2,156 - \$1,547]/\$3,312 = 0.1839$ ). At the same time, Republican women donors sanction fellow women colleagues by about 16% more than their Republican men donor counterparts do ( $[\$1,679 - \$1,141]/\$3,333 = 0.1614$ ). Recall that the theory predicts no gender differences in ideologically based preference sanctions. Sanctions for both men and women should increase similarly as the size of the minority decreases. Our data, however, indicate that women are less forgiving of ideological differences among fellow women than they are of similar transgressions from men colleagues. Furthermore, there is no indication that the effect will dissipate as the minority group grows.

## Discussion

Descriptive representation is an essential aspect of democratic theory. Sufficient descriptive representation reflects an accurate portrayal of the plurality of interests within a given polity. Hence, descriptive representation leads to

<sup>23</sup>The key frequency distribution statistics for the truncated measure of dollar contribution amounts from *men donors to men recipients* are as follows: minimum: \$1; 1<sup>st</sup> percentile: \$79; 5<sup>th</sup> percentile: \$500; 25<sup>th</sup> percentile: \$1,000; 50<sup>th</sup> percentile (median): \$2,000; 75<sup>th</sup> percentile: \$5,000; 95<sup>th</sup> percentile: \$10,000; 99<sup>th</sup> percentile: \$10,179; maximum: \$25,000.

an increased public perception that institutions are legitimate (Mansbridge 1999; Mill 1861, chap. 3; Phillips 1991; Pitkin 1967). The legitimizing function of descriptive representation, however, necessitates the equitable treatment of underrepresented groups once they enter the political institution. Clearly, if underrepresented groups face serious discrimination in the institutions that they seek to legitimize and thus cannot fully contribute to lawmaking, institutional legitimacy is merely a chimera.

Past research on representative institutions has been rooted in Kanter's (1977) tokenism logic that is based on two groups—a majority group and a minority group (Heath, Schwindt-Bayer, and Taylor-Robinson 2005; Kathlene 1994). Yet, these studies do not fully explore the logical consequences of tokenism theory for understanding colleague valuation in representative institutions. Kanter's logic, for instance, examines only the consequences of minority group size, without considering how preferences or values organizational members hold may color how they esteem one another as colleagues. Our aim has been to extend Kanter's logic of tokenism applied to the theoretical study of political organizations by examining how minority groups receive different sanctions based on preference divergence among same-group (party) members. The major testable implication derived from the theory is that increases (decreases) in minority group size attenuate (exacerbate) the negative impact preference divergence exerts on individual-level colleague valuation decisions.

The statistical evidence analyzing member-to-member leadership PAC contributions in the U.S. House of Representatives for the 105<sup>th</sup>–108<sup>th</sup> Congresses yields strong support for the theory in several ways. Specifically, the analysis finds that when men with leadership PACs value their colleagues, both men and women, the gender composition of the group plays a central role in those valuations. Men give more to men, less to women, as the proportion of women increases. For women with leadership PACs, however, the results are less clear. Women value each other significantly differently from how men value each other, but the effect of gender composition is much more muted with respect to women colleague valuation decisions. In other words, although women value other women more highly as the proportion of women in the party increases, they do not increase these intra-group valuations enough to offset the decrease in intergroup valuations from their majority-men colleagues. Further, contrary to the theory, women actually increase their valuations of men as the proportion of women increases, possibly as a means to diffuse the threat that they pose to the majority group within the political organization.



Surely, we will know more when we can analyze a legislature in which women have transitioned to majority status. Yet the evidence reveals that this transition may not be as smooth as aggregate-level studies suggest (e.g., Grey 2006; Yoder 1991). This is because women U.S. House members, as their numbers increase, do not exchange support from men colleagues with support from each other. If we consider leadership PAC campaign contributions as being akin to gifts meant to obligate colleagues to provide future help (e.g., Gouldner 1960; Shrum and Kilburn 1996), the results may indicate that women do not properly assess the abilities of their women colleagues to provide valuable future assistance. Instead, their valuations tend to mirror those of the men in their group. These findings may suggest that valuations of minority and majority groups are not, in fact, symmetric. Further, if these patterns persist as the proportion of women increases beyond those we observe in these data, then it is possible that gender quotas, which many proportional representation systems have implemented in recent years, may not serve as a panacea. Regardless of group size, in fact, coordination problems may make attaining an effective critical mass of women an elusive goal (Kanthak and Krause 2010). Moreover, the theory extends to those representative institutions that rely on publicly financed elections, but empirical analysis of these types of elected assemblies would necessitate the use of less finely grained data on party leadership and committee assignments that exhibit strong resource constraints.

These results have strong implications for minority representation in general, because they indicate that underrepresented minorities in democratic institutions receive benefits from their token minority status, but those benefits ebb once the group reaches a size large enough to provide benefits for each other. Even then, there are no guarantees that the group *can* provide benefits. Most starkly, increasing the size of an underrepresented group may actually dramatically diminish the level of institutional support members of that group receive. Put simply, both majority and minority groups appear to reinforce one another in the construction of an implicit “glass ceiling” that serves to constrain entrenched minority group members’ ability to work together to fulfill the promise of increased minority representation.

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# Inequality and the Dynamics of Public Opinion: The Self-Reinforcing Link Between Economic Inequality and Mass Preferences

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*This article assesses the influence of income inequality on the public's policy mood. Recent work has produced divergent perspectives on the relationship between inequality, public opinion, and government redistribution. One group of scholars suggests that unequal representation of different income groups reproduces inequality as politicians respond to the preferences of the rich. Another group of scholars pays relatively little attention to distributional outcomes but shows that government is generally just as responsive to the poor as to the rich. Utilizing theoretical insights from comparative political economy and time-series data from 1952 to 2006, supplemented with cross-sectional analysis where appropriate, we show that economic inequality is, in fact, self-reinforcing, but that this is fully consistent with the idea that government tends to respond equally to rich and poor in its policy enactments.*

**T**his article addresses two central components of politics: mass preferences and economic inequality. Explaining the formation of public opinion and its influence on government is essential for a complete understanding of a democratic system. Understanding income inequality also holds a central place in the study of politics. In fact, one influential definition of politics—Who gets what, when, and how? (Lasswell 1958)—hinges on distributional outcomes. We bring these two components of politics together by analyzing how income inequality influences public preferences.

In doing this, we build on a growing body of research dedicated to understanding the implications of economic and social inequality for American democracy. While scholars from a variety of related disciplines have been interested in inequality for decades, the recent American Political Science Association Task Force on Inequality and American Democracy has undoubtedly injected re-

newed vigor to this area of inquiry (see Jacobs and Page 2005). Yet, the emerging research has produced seemingly conflicting findings.

On one hand, scholars such as Bartels (2008) and Gilens (2005, 2011) have sounded an urgent alarm that economic inequalities generate political inequities that threaten the very heart of American democracy. Bartels implies that economic inequality may be self-reinforcing, with economic inequality generating political inequities that prevent the poor from using the democratic process to push for government action that would increase their well-being and reduce economic inequities. On the other hand, Soroka and Wlezien (2008, 2011) and Ura and Ellis (2008) argue that there is little reason to believe that increasing economic inequality is a fundamental challenge to the logic of American democracy. They reach this conclusion based on evidence that there is similarity in the over-time movement of mass preferences across income

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groups and that government is generally as responsive to the poor as to the rich. Therefore, this work implies that it is unlikely that divergent preferences between the rich and the poor would create a situation in which economic inequality feeds back into the political system in a way that current high (or low) levels of inequality generate yet more (or less) future economic inequality.

We utilize macrolevel analysis of time-series data to argue that economic inequality is, in fact, self-reinforcing. When economic inequality is high (or low), it is likely to produce even higher (or lower) future levels of inequality. However, we find that economic inequality is self-reinforcing not due to lack of responsiveness to the poor but to how the preferences of both the rich and the poor respond to changes in income inequality.

In the remainder of the article, we engage in a more detailed discussion of the recent literature on inequality and representational linkage in U.S. politics. We then develop connections between this literature and the political economy models of Meltzer and Richard (1981) and Benabou (2000) that lead to competing predictions regarding the connection between income inequality and public opinion. Finally, we test these predictions with time-series data from 1952 to 2006, supplemented with cross-sectional data, and discuss the major results and conclusions of the analysis.

## **Economic Inequality and American Democracy: Divergent Approaches, Competing Results**

One of the leading arguments in favor of democracy relates to the distribution of power in society and the benefit that an egalitarian distribution of power has for the poor (Lenski 1966; Lipset 1981). The basic logic of the argument is that those at the bottom of society benefit from redistribution. When those at the bottom are given the franchise and have a formal say about the formation of government policy, redistribution will increase. This increase in redistribution then reduces economic inequality. Essentially, the argument holds that democracy enhances the absolute and relative well-being of the poor, who demand increased state redistribution and are able to see their demands met when provided with procedural mechanisms for influencing state policy.

With this theory of “redistributive democracy” in the background, contemporary observers of American politics have reacted with alarm to the path of economic inequality over the past three decades. It is now a widely known fact that income inequality, measured in a variety of ways and using a variety of income concepts, has been

rising steadily since the late 1960s or early 1970s (Bartels 2006; Danziger and Gottschalk 1995; Kelly 2009). After declining substantially for much of the post–World War II era, the path of economic inequality since 1970 charts as a nearly straight line toward more inequality (Danziger and Gottschalk 1995; Piketty and Saez 2003).

For scholars operating within the redistributive democracy framework, this increase in income inequality raises fundamental questions about American democracy. If we accept the basic framework of democratic redistribution theory, there seem to be two possible explanations for a sustained increase in income inequality in a democratic system. First, it may be that government is impotent to stem the rising tide of inequality, with economic and demographic factors that are beyond the control of the state driving inequality higher. If this is the case, the democratic redistribution perspective is minimized in importance because governments simply cannot affect important change in distributional outcomes. The second possibility is that the democratic system in the United States is so unequal that those at the bottom cannot effectively petition the state for action that would balance the scales between rich and poor.

A substantial amount of evidence undermines the first potential explanation for the path of economic inequality over the past three decades. While former treasury secretary Henry Paulson and many other economists have attributed economic inequity to market forces that are beyond the control of government and the political parties (Bartels 2008, 29), the idea that government cannot effectively redress economic inequities simply does not ring true when compared to empirical reality. A substantial and growing body of evidence points to the conclusion that public policies, along with economic and demographic factors, have powerful effects on distributional outcomes. Hibbs and Dennis (1988) show that partisan control of government influences the size of government transfer programs. Page and Simmons (2000) catalog a variety of programs that are effectively used to combat inequality and poverty. There is also strong evidence that partisan control of the presidency and the ideological tone of national public policy influence income inequality (Bartels 2008; Hibbs 1987; Kelly 2005, 2009). It seems quite clear that government *can* affect distributional outcomes.

Given this clear evidence that government has the capacity to alter the path of economic inequality, scholars have turned to an effort to determine whether American democracy is flawed in some way that might lead to the sustained increase in inequality that we have witnessed. In order to assess whether weaknesses in American democracy have been a crucial culprit in the rise in economic

inequality, a focus on heterogeneity in mass preferences and heterogeneity of government responsiveness across income groups has emerged in recent scholarship.

Redistributive democracy theory assumes that the interests of the rich and the poor are different when it comes to redistribution and distributional outcomes.<sup>1</sup> Specifically, the poor are expected to be much more supportive of government action to balance the scales of inequality than the rich. Despite recent evidence that the rich and the poor show broad agreement on the most fundamental questions of governance and the role of the state, when it comes to opinion regarding state intervention to explicitly redistribute income from the rich to the poor, those at the top and the bottom differ (Gilens 2005, 2009; McCarty, Poole, and Rosenthal 2006; Page and Jacobs 2009).<sup>2</sup> There does appear, then, to be at least a degree of relevant heterogeneity in mass preferences.

With regard to heterogeneity of government responsiveness to mass preferences, Gilens (2005, 2011) and Bartels (2008) provide some of the most recent work on this topic. Using evidence from the Senate Election Study to compare constituency preferences to Senate roll-call voting behavior, Bartels (2008) shows that the behavior of Senators aligns more closely with the preferences of the rich than the poor. In a similar vein, Gilens (2005, 2011) assesses the linkage between mass preferences and policy change. While his central finding is that there is a bias toward the status quo in policy making, he notes that policy is much more likely to shift when the rich support a change than when the poor are supportive of a change. He concludes that when the issue preferences of the rich and the poor diverge, policy makers are more responsive to the preferences of those at the top.<sup>3</sup>

Together, these analyses form what we call the “unequal democracy” perspective. From this perspective, rising inequality in the United States has profound implications for political inequality, essentially creating a vicious cycle in which inequality begets yet more inequality.

<sup>1</sup>While this theory clearly is rooted in discussions of divergent *interests* between the rich and the poor, empirical studies rooted in this theory commonly, and of necessity, move on to discussions of *preferences* reported in surveys, which may or may not align with the *interests* in which the theory is rooted.

<sup>2</sup>However, there is less difference between the opinions of the rich and the poor than one might at first suspect. In several policy domains, the opinions of those at the top and the bottom are remarkably similar (Enns and Wlezien 2011; Soroka and Wlezien 2008).

<sup>3</sup>Jacobs and Page (2005) also present evidence related to the unequal democracy perspective. Avoiding some of the weaknesses of other research in this vein, they use a time-series, cross-section design to argue that foreign policy making is generally more responsive to business leaders than to general public opinion.

Bartels's (2008) work in particular has implications for understanding how unequal responsiveness affects the path of economic inequality. While assessing a variety of reasons for the unabated increase in income inequality since the 1970s, one factor that is clearly implicated is the lack of responsiveness to the poor juxtaposed with responsiveness to the policy preferences of the rich.<sup>4</sup> Bartels at least implies that the steady increase in inequality over time is a symptom of an unequal democracy that does not respond to the preferences or the interests of those at the bottom of the income distribution (Bartels 2008, 286). Income inequality rises and government does little to respond because those at the top see little need for intervention and those at the bottom have little influence.

Much of the analysis supporting the unequal democracy perspective is rooted in cross-sectional evidence. In particular, the most pivotal evidence regarding Senators' responsiveness to the rich and the poor is based entirely on cross-sectional correlations between the preferences of the rich and the poor (measured at the state level) and Senators' voting behavior. An important critique of such analyses is that they do not pay sufficient attention to the dynamics of mass preferences. This critique has both theoretical and empirical roots. First, from a theoretical perspective, when examining policy change, it is not ideal to examine responsiveness using data in which no over-time opinion movement is observed. The cross-sectional approach is well suited for analyzing whether or not a particular policy, such as Aid to Dependent Children in 1935, is passed. However, once a policy is in place—and the status quo is set—politicians may only have an incentive to change the policy (i.e., increase or decrease funding, raise or lower regulations, etc.) if public opinion shifts. Absent any change in public opinion, politicians face diminished incentives to modify the status quo. (Though there are certainly other incentives, such as inputs from interest groups, that could be present.) If we want to understand why redistributive policies increase or decrease, at a minimum we need to examine whether and how public opinion moves. Second, from a purely statistical perspective, the preferences of the poor are more noisy than the preferences of the rich. Given this, it is quite possible that statistical associations between policy making and the preferences of the rich can be more easily

<sup>4</sup>Of course, Bartels presents a much more nuanced picture of American democracy, particularly drawing attention to the importance of the ideological convictions of elected officials, which can lead public opinion of both the rich and the poor to have relatively little effect on policy, either because opinion is confused and disconnected from relevant values or because policy makers simply ignore it. In a related vein, Jacobs and Shapiro (2000) argue that lack of responsiveness to the expressed preferences of the public is connected to elite manipulation of opinion.

found because the preferences of the rich contain less noise (Bhatti and Erikson 2011; Stimson 2009).<sup>5</sup>

Both of these critiques have led some scholars to advocate an explicitly cross-temporal approach to assessing inequality and American democracy. Time-series analysis provides for an assessment of movement over time—of responsiveness of policy making to mass preferences. This approach also mitigates some of the concern about the signal to noise ratio of the preferences of the poor relative to the preferences of the rich. Over time at the aggregate level, truly random fluctuations at the individual level cancel each other out, leaving only a real “signal.” This is the case in measuring both the preferences of the rich and the poor and decreases the likelihood that findings of unequal responsiveness are merely a statistical artifact.

Within this “dynamic democracy” framework, Ura and Ellis (2008) and Soroka and Wlezien (2008, 2011) address questions related to economic inequality and policy responsiveness. Using time-series measures of aggregate public opinion calculated within income categories based on General Social Survey Data from 1974 to 2004 (to 1996 for the responsiveness portion of the analysis), Ura and Ellis (2008) present two particularly important findings. First, especially in terms of movement over time, the preferences of those in the lowest and highest income categories are highly correlated. That is, changes in the policy preferences of the rich and the poor differ little over time. Second, the policy-making activities of Congress respond similarly to the policy preferences of citizens at all income levels. Using similar data but focusing on opinions toward specific policy domains and issues, Soroka and Wlezien (2008) show that the opinions of the mass public follow a similar path over time whether these attitudes are disaggregated by income or education.<sup>6</sup>

From this perspective, the democratic system in the United States is responsive to both the rich and the poor, in large part because the preferences of both groups track each other over time. In terms of implications for the

steady increase in economic inequality over the past several decades, this perspective suggests that shortcomings in policy responsiveness to those at different income levels are not the culprit. We must look elsewhere to understand how economic inequality within the American democratic system has continued to rise so steadily. And as we do, we must keep in mind the clear and consistent findings showing that government policy has the ability to reduce economic inequality (Bartels 2008; Kelly 2009).

Empirical results from the primarily cross-sectional unequal democracy perspective and the cross-temporal dynamic democracy perspective present a puzzle regarding the steady increase in inequality observed over the past 30 years. The unequal democracy thesis points to unequal governmental responsiveness to the rich and the poor as a potential explanation. However, this explanation is not at all consistent with the findings from the dynamic democracy perspective, which shows homogeneity of public opinion change and policy responsiveness across income groups. Yet the dynamic democracy perspective provides little in the way of guidance as to why income inequality has continued unabated.<sup>7</sup>

In order to untangle this puzzle, it is important to take seriously both the consistent trend toward inequality over the past 30 years and the homogeneity of opinion dynamics across income groups. In this article we look for a solution to the discrepancies between findings of unequal democracy and dynamic democracy by examining the role of economic inequality in opinion formation. Our argument is that the vicious cycle of inequality suggested by the unequal democracy perspective is legitimate, but that responsiveness of government to public opinion across income categories is also real.

We reconcile these competing perspectives by showing how public opinion responds to income inequality. Our analysis is informed by two competing models of

<sup>5</sup>The point we are making here regarding noise is purely a statistical one. It is also possible that differences in information, uncertainty, and manipulation by elites produce systematic differences between income groups. As we note below, our use of time-series analysis is well suited to “pick up” these differences.

<sup>6</sup>Other authors have also discussed the homogeneity of preferences across various population subgroups and have developed explanations for why mass opinion displays such a degree of homogeneity in its movement over time (Enns and Kellstedt 2008; Page and Shapiro 1992). Some explanations for the homogeneity of opinion movement over time are rooted in deception or misinformation from political elites that lead the poor to develop a false consciousness. By showing that public opinion is often shaped by policy elites, Jacobs and Shapiro (2000) provide evidence in favor of this perspective.

<sup>7</sup>The divergent modes of analysis used by these two theoretical camps may be crucial. The unequal democracy perspective argues that the absolute level of support for various redistributive programs varies between the rich and the poor, and when actual policy is compared to the opinions of citizens with different incomes, the rich are more likely to have their opinions correspond with policy (Gilens 2005, 2009). On the other hand, the dynamic democracy perspective argues that the rich and the poor are very similar in terms of movement of public opinion over time (Soroka and Wlezien 2008; Ura and Ellis 2008). One possible reason for the differences between these two sets of findings, then, could be due to method of analysis. In the analysis presented in this article, we rely primarily on time-series evidence, so our methodological approach aligns more clearly with the dynamic democracy perspective, and this might in part explain some of the results that we obtain. Importantly, however, our focus on time-series data is theoretically motivated by our ultimate goal of better understanding how the dynamics of American politics have contributed to rising inequality. This focus supports the use of cross-temporal data.

inequality and public opinion. The first is the classic model of Meltzer and Richard (1981), which predicts that increases in income inequality push support for redistribution higher. Under this view, if the government responds as expected to the desires of citizens, growing inequality will be met with increased government action to ameliorate it. This is the theory implicitly adopted by proponents of unequal democracy. The second model (Benabou 2000) predicts that increasing inequality can actually drive support for redistribution lower. If this is the case, the steady increase in inequality that has not been met with sufficient government action to turn the tide does not force the conclusion that representation in the United States is broken. Rising inequality, at least to some threshold, may dampen support for government intervention such that the path of American inequality and government's response could occur in a representative system that is responding to citizen preferences.

In general, we find support in the aggregate data for the predictions of the Benabou model. We also find, in an analysis of public opinion by income group, that both the rich and the poor respond to rising inequality by shifting in a conservative direction. Together, these findings offer an important insight into the seemingly conflicting findings of the unequal and dynamic democracy perspectives. Previous research shows that liberal public opinion produces more egalitarian distributional outcomes (through the effects of opinion on election outcomes and public policy), and that the effect of public opinion is larger than other important explanations of income inequality such as deindustrialization, single-female households, and female labor force participation (Kelly 2009). Thus, our finding that public opinion—of all income groups—becomes more conservative in response to an increase in inequality helps to explain how economic inequality can reinforce itself through feedback on the political system (a conclusion of the unequal democracy perspective) at the same time that government responds to the reported preferences of citizens (a finding of the dynamic democracy literature).

### **Competing Models of Inequality, Mass Preferences, and Government Policy**

Underlying the literature discussed to this point is either an implicit or explicit assumption about how inequality, mass preferences, and policy outcomes are connected in a democracy. The assumption is that when inequality rises, demand for inequality-reducing policy will increase, and

such policies will be enacted. This assumption is rooted in a classic model of democracy and redistribution developed by Meltzer and Richard (1981). Alternatively, a more recent model (Benabou 2000) suggests a substantially different set of connections between economic inequality, mass preferences, and policies designed to reduce inequality. As we bring an explicit assessment of the linkage between economic inequality and mass preferences into the discussion of inequality and American democracy, it is essential to identify the implications of these competing models for the formation of public opinion.

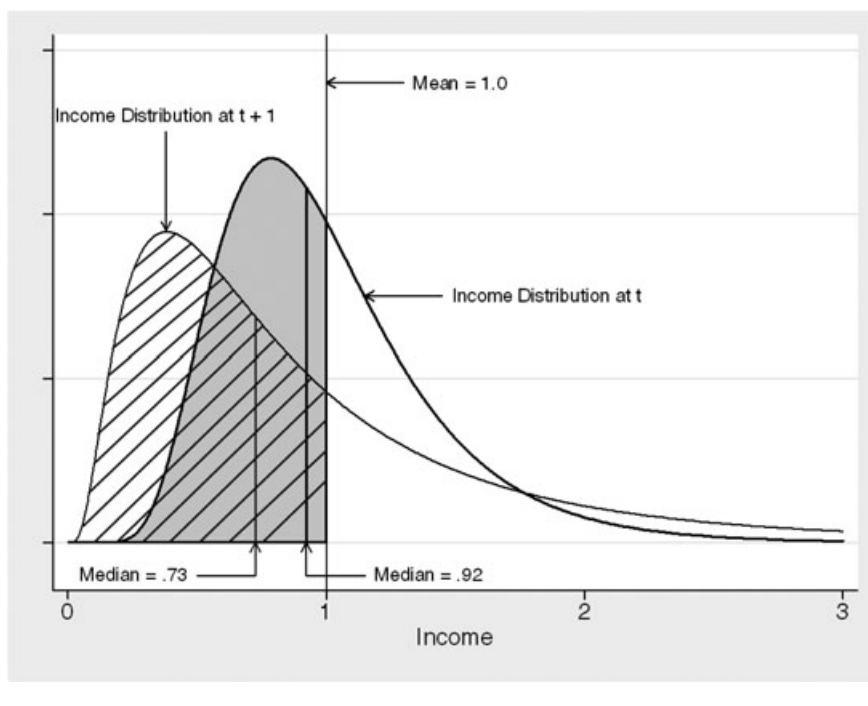
### **Inequality Enhances Support for Government Spending: The Meltzer-Richard Model**

More than two decades ago, Meltzer and Richard (1981) published what remains a classic statement on the theoretical link between distributional outcomes and government expenditures. These scholars elucidate a theory suggesting that income inequality produces expansion of government. They argue that when inequality increases, the mass public responds by requesting more government activity, which government then enacts by increasing redistributive welfare state programs. While existing empirical tests of this theory (Meltzer and Richard 1983; Moene and Wallerstein 2001, 2003) focus on the link between economic inequality and government social expenditures, it is important to emphasize that public opinion is at the heart of the model. The model's redistributive implications depend on how inequality influences mass preferences. We examine these implications in more detail to generate expectations regarding the link between movement over time in inequality and public opinion.

The Meltzer-Richard (MR) model is relevant for our purposes due to its treatment of the relationship between economic inequality and public opinion in the aggregate over time. The key insight of the MR model, rooted in an assumption that government redistribution has no net effect on aggregate well-being, is that those with below-average incomes favor at least some degree of redistribution while those above the mean do not. This leads to the central prediction of the MR model—that increases in income inequality produce increased public support for redistribution.

Figure 1 helps to demonstrate this insight by depicting two hypothetical log-normal income distributions, one at time  $t$  and the other at a time in the future ( $t + 1$ ) with income plotted on the  $X$  axis and proportion of population on the  $Y$  axis. Both distributions share a common mean. What varies across these distributions is the level of inequality.

FIGURE 1 Two Hypothetical Income Distributions



The question for the purpose of this article is how does public support for government expansion change in response to an increase in inequality between  $t$  and  $t + 1$ ? Under the MR model, support for government expansion increases. This is the case because all individuals to the left of the line demarcating mean income support redistribution, while those at and to the right of the mean line do not support redistribution. Since this is the case, the shaded area under the income distribution line at time  $t$  represents the proportion of the population supporting taxes and spending. For the more unequal distribution at time  $t + 1$ , the striped area is the proportion of the population supporting government action. The striped area is larger than the shaded area, meaning that a larger proportion of the population is to the left of the mean, and supportive of redistribution, under the more unequal income distribution.

More formally, if we follow Meltzer and Richard by assuming that government redistribution does not impact aggregate welfare, the proportion of the population supporting redistribution is given by:

$$p = \Phi\left(\frac{\Delta^2/2}{\Delta}\right) = \Phi\left(\frac{\Delta}{2}\right), \tag{1}$$

where  $p$  is the proportion of the population supportive of redistribution,  $\Phi$  is the standard normal cumulative distribution function, and  $\Delta$  is the degree of inequality, with

$\Delta^2/2$  giving the difference between mean and median income (notation borrowed from Benabou 2000). Here we are simply stating that those below mean income support redistribution. As the value of the quantity in parentheses rises, the function produces a higher value of  $p$ . This equation shows that public support for redistribution, shorthand for the size of government in the MR model, should be positively correlated with economic inequality. If this model is correct, it is easy to see why proponents of the unequal democracy hypothesis raise questions about the American democratic system given the path of inequality over the past several decades. This model predicts that the public will support government expansion in response to rising inequality. As rising inequality pushes more people below the mean, the percentage of the public favoring redistribution increases. As a result, given government's ability to influence distributional outcomes (Hibbs 1987; Hibbs and Dennis 1988; Kelly 2009), inequality should decrease. What we have actually observed is a sustained increase in inequality.

### Inequality Reduces Support for Government Expenditures: The Benabou Model

Benabou (2000) presents a fundamentally different perspective on the link between economic inequality and support for government expansion. Whereas the MR



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