Public Opinion and Policy Representation:
On Conceptualization, Measurement and Interpretation*

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Abstract

The congruence between public preferences and public policy is of special importance in representative democracies. We want to know whether the public is getting the policies it wants and, if not, whose preferences are being represented. To directly evaluate congruence, scholars need to measure what the public wants in a particular policy area and then correctly match it to policy in that area. This is difficult to do. Not surprisingly, while much scholarship examines the congruence of positions, little research examines actual policy congruence. Even the work that there is on the subject offers limited information. In this paper, I assess what we can infer about congruence from the different scholarly traditions in the study of representation. I also consider prospects for research on the match between public preference inputs and public policy outputs, particularly when we cannot assess it directly.

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Does public policy reflect the wishes of the public? To what degree? Under what conditions? These are important questions for political science and more broadly, even for those who debate the value of such representation (see e.g., Mansbridge 2003; Sabl 2015). Not surprisingly, there now is a massive amount of work on the representation of public opinion in the behavior of policymakers.

Most of the existing work focuses on *positions*. A common approach here is to compare the average positions of the public and their elected representatives. This was first employed in research on dyadic representation (e.g., Miller and Stokes 1963; McCrone and Kuklinski 1979) that continues today (see, e.g., Bafumi and Herron 2010). Another common approach compares the positions of the public with those of governments and political parties (e.g., Weissberg 1978; Powell 2000; Budge, et al 2001; Hobolt and Klemmensen 2005; Adams, et al 2009; Jennings and John 2009; Ezrow 2010; Dalton, et al 2011). A new, related strain of research examines the correspondence between public and government *priorities* (Jones, et al 2009; Bevan and Jennings 2014). This all is important work to be sure but offers only limited information about actual policy representation, as positions, priorities and policies are different things.

A smaller, though rapidly-growing literature studies government policy (see the reviews in Burstein 2003; 2010; Wlezien 2011; Wlezien and Soroka 2016). However, only a sliver (Lax and Phillips 2009; 2012) of this work attempts to match public preferences and policy outputs, to assess what many scholars refer to as "congruence." The lack of research on the actual match

between opinion and policy is not surprising, and for various reasons, the most important of which is the difficulty of determining what and how much policy the public wants in many areas. This may help explain why some scholars studying policy representation sometimes have used the word – congruence – not to designate the match between levels of public support and policy outputs, but between *changes* in support and policy (e.g., Page and Shapiro 1983).[1]

Given the paucity of research, it is not clear what exactly we know from the existing research about the congruence of preferences and policy. Is the public really getting what it wants? This paper considers this question and how we might go about answering it. The paper begins with an analysis of the literature on representation and what it does – mostly does not – reveal about opinion-policy congruence and why. It then considers where we might go from here.

On Responsiveness and Congruence

Researchers increasingly distinguish between policy responsiveness to public preferences and congruence between the two. In the most general sense, if there is responsiveness, we would observe the following:

$$P = f\{P^*\}, \qquad (1)$$

where P designates policy and P^* the public's preferred level of policy, that preferred by the average person.[2] This is not meant to be a complete model of policy, of course, as we know that other things matter. The equation is intended solely to characterize the general relationship

[1] Also see the later discussion on "research on policy," particularly as relates to Weissberg (1976)'s classification of "majoritarian" and "covariational" congruence.

[2] Some scholars use the word "responsiveness" more restrictively to designate the over-time adaptation of policy in response to public opinion.

between opinion and policy. We expect a positive relationship between opinion and policy – when most people want a lot of policy, for example, they would get a lot of policy. Such responsiveness of policy to opinion would not mean that public opinion actually causes policy, of course, as it could be that policymakers are reacting to something else, including the same things that determine public opinion.[3] It simply is hard to demonstrate causality in observational studies, so it is important that experimental work is confirming of opinion effects (Butler and Nickerson 2011).

Evidence of responsiveness also does not mean that public preferences and policy actually are congruent. It may be that there is a bias in representation, where policy correlates with opinion, e.g., being more conservative in conservative countries, but is consistently more conservative than people would like in all countries. Even if there is no bias, it may be that responsiveness is weak, and does not fully reflect preferences, e.g., policy may be more (less) conservative in (less) conservative countries but less (more) conservative than people want. For congruence, we need to observe not only a positive relationship between preferences and policy, but an actual match. That is, we would need to know that policy equals what the public wants, at least that the two are not significantly different in the usual statistical sense. We can formally depict congruence, following Achen (1978):

$$P = a + B\,P^* + e, \tag{2}$$

where the units can be spatial or else policy types. (They also could be temporal.) If there is congruence, the coefficient (B) for preferences would be a perfect "1.0" and the intercept (a) would equal "0," i.e., there would be no bias. If B is greater than 0 and less than 1, there still

[3] Including covariates can help isolate the real effect of opinion but omitted variables will remain a problem.

would be responsiveness; it's just that policy would not match opinion. For a useful depiction of the differences between responsiveness and congruence, see Erikson, et al (1993: 92-94). For an empirical demonstration, see Matsusaka (2015).[4] While the regression coefficients are informative, notice that they do not fully capture congruence, as the degree to which the observations actually cluster around the line – how well preferences and policies match up – also matters. To fully assess congruence, therefore, we want to know both the estimated coefficients and the degree of fit, e.g., as reflected in the model R^2 and/or root mean squared errors.[5]

Now, it is important that all of this discussion assumes that we can measure the public's preferred level of policy and also that the measure is on the same scale as policy, with which we could diagnose and quantify the degree of congruence. That this not easily accomplished thus is of real importance. The fundamental obstacle is the public's preferred levels of policy, which survey organizations rarely even attempt to register. They do ask about support for particular policies, though this may not allow us to tap what policies the public actually wants. And much research relies on attitudinal measures or relative preferences, as we also will see. Not surprisingly, we know little about the congruence between the levels of policy the public prefers and government policy outputs.

The foregoing also assumes that policy responds to public preferences and not the other way around, and it is important to consider what Lasswell (1941: 15) called the "open interplay of opinion and policy." Key (1961) addressed these issues in his classic statement on public opinion

[4] Also see Lax and Phillips (2012).
[5] It thus may be that the mean absolute error or mean squared error is a better summary statistic, as it encompasses both the slope (and intercept) and fit.

and American democracy, and argued that opinion is not only a cause of politics; it is a consequence as well. That is, the public's preferences do not emerge independently of politics but are a product of what politicians do, including policy itself. Though there was little evidence for this at the time, even in Key's book, there is more now and the impact of politics and policy on opinion is better understood. There is more developed theory (see Pitkin 1967; Mansbridge 2003; Rehfeld 2006; Sabl 2015) and actual evidence of positive policy feedback on the formation and activation of constituencies (Campbell 2005; Disch 2011) and on preferences themselves (Soss and Schram 2007).

Scholars of opinion representation have recognized the issue as well, leading some (Kuklinski and Segura 1995) to favor dynamic approaches, which can avert problems of reverse causation. Some researchers have adopted this strategy and even assessed both how policy responds to opinion and opinion responds to policy (Erikson, et al 2002; Soroka and Wlezien 2010). Some of those retaining a cross-sectional focus develop and estimate models of opinion as well (Erikson, et al 1993). The results of these studies indicate that policy responds to opinion, at least in the statistical sense discussed above. It is not to say that opinion develops in a vacuum, any more than our preferences for products in the marketplace do. It is to say that the public, at least to a substantial degree, decides what it wants given the issues in consideration and the options on offer in the present and past. This is very much in line with what Key (1961) posited many years ago. Now, let us consider what researchers have learned about representation since that time.

Research on Positions

As noted above, much of the work on the representation of public preferences compares the positions of the public and policymakers. There is a long tradition of such research, beginning with Miller and Stokes' (1963) classic study, and research in the area has evolved substantially.

Much research in the area uses measures that are not directly comparable. Some of this work focuses on dyadic representation – the relationship between citizens' political attitudes in geographic constituencies and representatives' roll call votes (Miller and Stokes; 1963; McCrone and Kuklinski 1979; Converse and Pierce 1986). This is useful for assessing correspondence between public preferences and what representatives do, but it does not tell us much about actual congruence, as discussed. The measures just do not match. The same is true for much of the work that focuses on the relationship between public opinion and party and government positions based on party manifestoes (Budge, et al 2001; Adams et al 2009; Ezrow 2010) or government speeches (Hobolt and Klemmensen 2005; Jennings and John 2009).[6] We cannot determine whether public opinion and these measures of policy positions are equivalent.

The research that employs more comparable measures may offer greater insight about congruence. Some studies of dyadic representation attempt to match up constituency and representatives' preferences (especially see Bafumi and Herron 2010). Others compare the positions of the public and political parties (see Dalton, et al 2011 for a recent summary and analysis). There is a long-standing and now classic literature on government positions and the public (see the review in Powell 2004). This research takes government party positions from

[6] It also is true of work that compares election results and party and/or government positions.

manifestoes or expert surveys and weights them based on their size.[7]

Much of the research directly comparing positions focuses on broad ideological (left-right) placements. This is interesting to be sure, though it is not clear what ideological placements reveal about policy preferences and actions. There are a number of reasons. First, it is not clear that ideology is primarily, let alone solely, about policy.[8] This has been known for a long time (Converse 1964) but recent work underscores the point (Ellis and Stimson 2012). Second, even to the extent it does reflect policy, the policy meaning of left-right placement (L-R) varies substantially across contexts (see Fortunato, Stevenson and Vonnahme N.d.). Third, even assuming L-R has policy content and can be conceived of as a weighted summary of issue positions, any match between the public and government conceals variation in congruence across issues. For instance, L-R congruence could mean that the public is winning on all/most issues or that it is losing on all/most but that the losses balance out, i.e., the average person receives (sometimes a lot) less than it wants in some areas and (sometimes a lot) more than it wants in others. This is illustrated in Figure 1, which depicts a distribution of opinion and two sets of policy choices, P1-P5, the first of which clusters near the median citizen and the second of which is much more spread out. While the mean policy and the implied liberal-conservative placement are the same, the first set of policy decisions provides (far) greater congruence.[9]

[7] A large portion of the research measures the public median by weighting party positions by election results (following Kim and Fording 1998; 2003); while readily calculable, this measure of preferences has serious limitations, beginning with the assumption that election results are primarily determined by ideology (see Warwick and Zhakarova 2013).

[8] Even to the extent it is, the connection between ideology and policy preferences and policy varies across issues.

[9] Likewise, a moderate public placement could summarize consistently moderate opinions or the average of highly varied positions. It follows that, regardless of the variation of their positions on the issues, ideological congruence between the public and policymakers can occur regardless of the degree of positional congruence on particular issues.

-- Figure 1 about here --

A few scholars do compare positions on specific policies (e.g., Adams, et al 2014). They do not use comparable measures, however. Doing so would allow a more direct assessment of positional congruence but it is not clear what it would tell us about actual policy. Do positions and policies themselves match? What research we have suggests a modest relationship between institutional positions and government policies (Budge, et al 2001).

Other recent research compares public and policy priorities (Bevan and Jennings 2014). Scholars in this tradition focus on the problems the public finds important and the government's attention to those problems. This is significant research and brings us closer still but nevertheless stops short of providing an assessment of opinion-policy congruence.[10] For such an assessment, we at the very least want to know whether politicians' *decisions* comport with what the public prefers. Indeed, we really want to know about implemented policy *outputs*.

Research on Policy

There is research on policy representation. As noted above, however, scholars traditionally have not tried to assess the congruence between levels of preferences and policy. This seems to reflect the difficulty in measuring the public's preferred levels of policy, which we already have raised and discuss further below.

Much of the work on policy representation concentrates on the correspondence between opinion

[10] Note that it is not clear how to assess congruence between public and policy priorities.

and policy across contexts. Perhaps the best known work in this vein is Erikson, et al's (1993) analysis of public opinion and policy in the American states. They compare mean ideological dispositions in states and composite policy liberalism, and find a strong correlation between the two. There is similar research on very local levels of government, including school districts within the US (e.g., Berkman and Plutzer 2005), and some that compares countries (Brooks and Manza 2007).

Other scholars take different approaches. One fairly long-standing line of research assesses the consistency between preferences for policy *change* and actual policy change, which is one manifestation of what Weissberg (1976) referred to as "majoritarian congruence." Monroe's analysis (1979; 1998) of the US may be the best known work of this type but there is research on other countries as well (e.g., Brooks 1985; Petry 1999). Yet other research compares changes in both preferences and policy over time, what Weissberg (1976) referred to as "covariational" congruence. Page and Shapiro (1983) is the exemplar here.

All of this research shows that there is a relationship between public opinion and policy, but it is not clear what the work tells us about congruence. Some of the work – on consistency – may provide evidence of a match between the direction of preferred policy change and actual policy change, but it leaves open whether the amount of change equals the amount preferred. (As we will see, there is reason to wonder about what such results even reveal about the match between the direction of preferred and observed policy change.) The work on covariational congruence, meanwhile, does not provide incontrovertible evidence of real congruence, as it is not clear that changes in preferences mean that people want to change policy. For instance, preferences for

more spending may shift in a pro-spending direction but remain opposed to spending more, e.g., the percentage of people wanting more goes up and the percentage wanting less goes down but there still are more people wanting less than more. Of course, the research does tell us whether opinion and policy covary, which is important, and numerous others have extended the analysis using time series data (Erikson, et al 2002; Eichenberg and Stoll 2003; Wlezien 2004; Hobolt and Klemmensen 2008; Jennings 2009; Soroka and Wlezien 2010).

The research on policy is informative about responsiveness, recalling equation 1, but not about the actual match between public preferences and policy.[11] It may be that policy is only weakly responsive to preference variation. It also may be that policy is consistently too liberal or conservative. Policy may alternate between being too liberal or conservative depending on the party(ies) in power, as much research considers and some uncovers in empirical analyses. Further limiting is that some of the most influential work focuses on broad aggregates – opinion averages across issues or the like, e.g., liberal-conservative identification, and sums of policy. It reveals responsiveness to be sure; it's just not clear what (see Wlezien 2004). Analysis of representation within particular policy domains offers clearer evidence of substantive representation, but still does not assess congruence.

Only a tiny fraction of research actually attempts to equate the policy preferences of the public and policy decisions, and Lax and Phillips's (2012) ground-breaking work stands out. These scholars directly compare public support for specific policies in US states and the corresponding

[11] The work likely overstates the *general* level of responsiveness, as research by definition focuses on more salient domains about which survey organizations ask (Burstein 2003).

state policy decisions. Their analysis encompasses 39 specific policies in eight issue areas – abortion, education, electoral reform, gaming, gay and lesbian rights, healthcare, immigration, and law enforcement. The results show a great deal of responsiveness of policy to public opinion but that congruence between policy adoption and majoritarian public support is evident in only about half of the cases. They also reveal that there is an understandable structure to the variation in congruence, and that it is associated with issue salience, legislative professionalization, and term limits. Voter ideology, party control and interest groups also are part of the story.

What Lax and Phillips' have done is to be commended not only for what it shows but for the example it sets to scholars of policy representation. Importantly, even this research and approach is limited in what it reveals about congruence. There are three particular ways in which this is true.

First, support for and opposition to a particular policy can be deceiving about the public's preferences for the policy. Consider Obamacare, which has received minority public support in the polls partly because a significant percentage of opponents actually favors a larger government role in health care, not less.[12] In other words, preferences for a segment of the population seemingly are fairly monotonic, i.e., they prefer Obamacare to the status quo but not to a more expansive health care policy. This can be important for the kind of inferences we draw. For instance, taking the public's underlying preferences into account, Obamacare appears

[12] See the series of CNN/ORC International polls between March 2010 and July 2014. For a summary with links to the data, see http://politicalticker.blogs.cnn.com/2014/07/23/cnn-poll-is-obamacare-working/.

to be a case of congruence, not incongruence.

Second, even where there is a true dichotomous match between public support and policy, expressed public support for particular policies does not reveal actual preferred levels. That is, while we can tell from responses whether people favor a particular policy, we cannot determine how much policy people want, which may be more or less than support for any particular policy. For instance, returning to the case of Obamacare, it may be that a person supports the plan but favors more, perhaps much more, of a government role in health care. Thus, while responses to survey questions asking about particular policies make it possible to assess whether the public is represented on those policies, they do not allow us to see whether people are getting what they really want. This is important because the match between policy and *preferred levels of policy* is what opinion-policy congruence ultimately is about.[13]

Third, though we can tap preferred levels for specific policies in some areas, such as gay marriage, it is difficult to do in others. This is true for even for many seemingly binary policies, as Soroka and Wlezien (2010) discuss at some length.[14] It is truer still on more general policies. Consider, for example, asking people how much spending they want on defense or welfare, let alone the many less salient areas in which government spends money and makes (and implements) other policy decisions. Now consider asking about how much regulation of the environment or banking or other policy areas people want. Of course, we can ask people what

[13] In some instances, we might be able to piece it together from responses to various related items, for instance, those about legality of abortion under different circumstances—rape, incest, health of the mother, birth control. That is, it is possible to use responses to infer respondents' preferred levels of abortion policy, at least given the options survey organizations offer.

[14] Some might argue that this is true even for gay marriage, as domestic partnerships and civil unions are options, ones that some states have adopted.

they want in different areas; it just is not clear what the responses would reveal. This is mostly because we do not expect people to have specific preferred levels of policy in mind, and so responses are not likely to be very meaningful (for an early characterization, see Key 1961; for a recent, exhaustive review, see Shapiro 2011). Not surprisingly, survey organizations rarely ask respondents about their preferred levels of policy and usually ask about relative preferences, e.g., whether we are "spending too little" or whether we are "doing too much."[15]

Relative Preferences and Congruence

While it may be difficult to measure the public's preferred levels of policy in many areas, there may be indirect ways to assess congruence. Indeed, measures of relative preferences for policy themselves may be informative. Consider that those questions in effect ask people whether policy matches their preferred levels, and so it may be that responses tell us something about opinion-policy congruence. If people say "about right," after all, they seemingly are happy with the status quo. By contrast, if they say "too little" or "too much," they are indicating that they prefer policy change. This is the assumption underlying work on majoritarian "consistency" mentioned earlier and provides the basis for Bartels' (2015) assessment of the social welfare "deficit."[16] But does the assumption hold?

[15] It also is worth noting that the public may care more about outcomes than policies, at least in certain areas, e.g., the economy and national security (Wlezien 2005). What may matter in these areas is the match between the outcomes the public prefers and the outcomes it gets, not policies per se. Outcomes actually are the focus of much of the work on priorities, some of which was noted above, but they also are addressed in some research on policy responsiveness (Soroka and Wlezien 2010). Recent work on the latter shows that policy more closely follows public preferences than it does priorities, at least in a set of spending domains (Jennings and Wlezien 2015). That said, there is much more work to be done in this nascent research area.

[16] The assumption also is reflected in Ellis and Stimson's (2012) characterization of "conservative conservatives," those who think of themselves as conservatives but support liberal spending policies.

Let us take a look at some data. Table 1 shows responses to various spending preference items in the United States (US), relying on the General Social Survey (GSS) between 1973 and 2012.[17] Specifically, the table displays the percentages saying that we are spending "too little," "about right" and "too much" in a set of very broad domains: crime, defense, education, the environment, healthcare, and welfare. (It also shows "net support" for spending, which represents the percentage saying "too little" minus the percentage saying "too much.") The spending categories are quite broad, and so do not provide very specific guidance to policymakers or scholars. That said, research has shown that responses do appear to be informative about spending in general areas, as they adjust thermostatically to changes in spending over time and, in turn, are effectively represented in spending itself (especially see Soroka and Wlezien 2010).

The data in Table 1 suggests that there is substantial incongruence in spending domains in the US. With the exception of welfare and defense, the median (and mean) person appears to be underrepresented.[18] One cannot determine from these data how much misrepresentation there is on spending in the US, of course, but we can tell that substantial majorities say the government is spending too little in many domestic domains or, in the case of welfare, too much. These data thus can be taken to imply that there is a substantial democratic deficit, which is potentially

[17] The specific question wording is: "We are faced with many problems in this country, none of which can be solved easily or inexpensively. I'm going to name some of these problems, and for each one I'd like you to tell me whether you think we're spending too much money on it, too little money, or about the right amount on… First, are we spending too much, too little or about the right on <welfare>?"

[18] Of course, it may be that there is even more incongruence than these data suggest, as it may be that the public favors more spending in some years and less spending in others and that the averages conceal this variation. This is not the case, however.

damning of substantive political representation in the US. Bartels (2015) shows that the same is true in most other countries.

-- Table 1 about here --

These data also can be used to assess who is being represented. That is, we can see for which groups relative preferences indicate the greatest congruence and which groups the least. Table 2 displays preferences for spending across income groups, the subject of much political science research on inequality, some of which suggests that the preferences of the rich dominate American politics (e.g., Bartels 2008; Gilens 2012; Gilens and Page 2014). There is a spate of research demonstrating that the portrait of oligarchic control is not quite right, including Ura and Ellis (2008), Bhatti and Erikson (2011), Wlezien and Soroka (2011), Enns (2015), Bashir (2015), Branham, et al (N.d.). The table shows the mean net support for spending—the percentage who think we are spending too little minus the percentage saying too much—in the different domains by family income tercile.[19]

Interestingly, the results in Table 2 imply that the lower third of the income distribution is best represented in most domains.[20] This can be seen from the fact that mean net support over the period is closest to zero for the low income group in four of the six domains, indicated in bold in the table — education, the environment, defense and welfare. On average, the mean absolute difference from zero is smallest for the low income group; the means for the middle and high

[19] For calculation details, see Soroka and Wlezien (2008; 2010).
[20] The conclusion is supported by analysis of preferences in each year.

income groups are about 15% larger. These results appear to contrast with much of the recent research on inequality in opinion-policy representation; that is, they imply that the poor are more satisfied on average than the middle and rich![21] The most important take-away from Table 2 may be that there is not much difference in preferences across income levels for the spending domains taken separately or together, particularly given the theoretical range of the variables from -100 to 100. The one exception is welfare, where there are sizable differences, and there the poor seem more satisfied with the policy status quo than the middle and especially the rich.[22]

-- Table 2 about here --

While intriguing, the analyses in Tables 1 and 2 and the conclusions we might draw from them are deceiving, and for at least three reasons.

First, question wording matters a lot. The archetypal case is spending on welfare versus the poor. If we ask people about "welfare," a majority of respondents think we are spending too much, as can be seen in Table 1. If we ask about "the poor," by contrast, a majority think we are spending too little. This can be seen in Figure 2, which plots the net support for spending on welfare and the poor over time. The series clearly track each other closely but the levels of

[21] The results may overstate congruence with the poor because the measures conceal how much more spending people within the groups want, that is, it may be that the poor want a lot more spending and the middle and rich want just a little more. While possible, it is worth noting that greater percentages of the poor say that we are spending "about the right amount" or "too much" in some domains, including welfare. It also is worth noting that preferences for the poor, middle and rich shift in strikingly parallel ways over time, which implies that the distributions of preferences are fairly similar, at least in the vicinity of the cut points between response categories – too little, about right, and too much. For empirical details, see Page and Shapiro's (1992) general assessment of parallel publics and Soroka and Wlezien's (2008) examination of income groups' preferences for spending (and taxes) over time. Also see footnote 23 and the analysis of welfare spending preferences in the text below.

[22] Soroka and Wlezien (2008) show that much the same is true for income taxes.

support differ dramatically. So, which is it? Are we spending too much on people in need or too little? All we seemingly can be sure of is that we are not spending about the right amount, i.e., spending on welfare/the poor seems incongruent with public preferences, just in different directions.[23] The same issues with question wording may apply in other policy domains, of course.

Second, even assuming we have the right question wording, to assess congruence we need to match up preferences with spending. Consider welfare. Does spending on it include food stamps? How about housing assistance? What about social security? You or I may be comfortable making these decisions and budget analysts may be too. We just cannot be sure that the public has in mind what we and budget analysts do when we categorize the programs. This is important, because what matters is not what we have in mind but what is in the mind of the public. Not knowing clearly complicates an analysis of congruence even within particular countries. It is further complicated when conducted across countries because the "functional" classification of spending differs, sometimes in substantial ways.[24]

-- Figure 2 about here --

Third, using relative preferences to indicate congruence presumes that the public responds thermostatically to policy. Otherwise measured relative preferences really do not tell us anything

[23] We also can be pretty sure that the different questions are tapping similar things over time, as the correlation between the two is a healthy 0.83. If they tapped preferences about very different types of programs, then the correlation presumably would be much lower, unless of course changes in policy and the other determinants of preferences for the two program types are strikingly similar over time.

[24] See http://unstats.un.org/unsd/cr/ctryreg/ctrylist2.asp?rg=7. Classification also can change over time within countries, sometimes with meaningful consequences (Soroka, Wlezien and McLean 2006).

about the public's satisfaction with the policy status quo. Consider the following model of relative preferences (R):

$$R = P^* - P. \quad (3)$$

In the equation, R is a function of the public's preferred level of policy, represented as P^*, and also policy (P) itself. Because, as discussed above, we often do not have measures of P^* *and* because the three variables are not measured using the same metric, it is necessary to rewrite the equation as follows:

$$R_t = B_1 U_t + B_2 P_t + e_t, \quad (4)$$

where U is a set of additional exogenous predictors of P^* and the subscripted t indicates time. The equation actually can be estimated over space and/or time, though the latter is more common and also dovetails with dynamic representation, which we introduce below.

Now, if the coefficient for policy (B_2) in equation 4 is less than 0, we have evidence of thermostatic responsiveness.[25] This often is what we observe but sometimes not (Wlezien 1995). Moreover, even when the coefficient is less than 0, its size varies, owing partly to characteristics of issues and partly to political institutions (Soroka and Wlezien 2010; Wlezien and Soroka 2012). In other words, measured relative preferences are not reliable indicators of congruence across domains. *In some domains, responses are completely unanchored to the policy status quo and so tell us absolutely nothing about whether the public wants more or less.*

Even where we have the right question wording and the correct match with actual spending,

[25] Notice that the coefficient is net of any positive feedback of P on R, which is possible and potentially could overwhelm the underlying thermostatic responsiveness, thereby producing a positive coefficient B_2.

therefore, expressed preferences are not at all indicative of policy congruence in some areas. While it may be tempting to interpret responses to the spending items as telling whether the public is satisfied with current policy, doing so may obfuscate more than it reveals.[26]

On Responsiveness and Congruence

What is a scholar do to? Where possible, we can follow the example of Lax and Phillips (2009; 2012), bearing in mind the limitations discussed above as we do. In other areas, we can keep working on ways to measure preferred levels of policy, either directly or indirectly, though this might not be possible for many areas. We also can pay more attention to policy measurement, especially the implementation of decisions, which has received scant attention of scholars studying representation. In the meantime, and especially when taking an historical perspective, there is another possibility that might prove useful. Specifically, we can use the coefficients from the thermostatic model of *both* opinion and policy to identify the equilibrium levels of policy and relative preferences. We then can attempt to anchor the estimate based on analysis of differences in preferences and responsiveness across groups. Let us see how this might work, beginning with the general thermostatic model.

We already have introduced the equation (4) for relative preferences just above. There, preferences (R) are modelled as a function of policy (P) and the instruments (U) of the public's underlying support for policy as well. The associated equation for policy is as follows:

$$\Delta P_t = \rho + \gamma_1 R_{t-1} + \gamma_2 G_{t-1} + \gamma_3 V_{t-1} + \mu_t, \quad (5)$$

[26] That many survey questions register unconstrained preferences – that is, regardless of any trade-offs, e.g., in spending on other programs or taxes or deficits -- may be further limiting (Hansen 1998).

Here, policy change (ΔP_t) is modelled as a function of lagged preferences (R_{t-1}). (This is the expected functional form given that these preferences register support for policy change.) Other things besides public opinion may matter for policy, of course, including the partisan control of government (G_{t-1}). Yet other things (V_{t-1}) may matter as well. All of the independent variables are lagged so as to reflect circumstances when US budgetary policy, the subject of the empirical analysis that follows, is made, i.e., in the previous year.[27]

Equations 4 and 5 contain information about the relative preference equilibrium point, that is, the level of *R* that predicts policy change that, because of feedback, leaves *R* unchanged, other things being equal. Equation 4 indicates the equilibrium level of policy, which actually may change over time because of changes in the *underlying* preferred levels of policy—policy is in equilibrium when it matches the amount predicted by *U*, the factors tapping the levels of policy the public supports. Equation 5, in turn, indicates the level of *R* that predicts the change in *P* required to leave *R* unchanged. One might think that this is the level of *R* that predicts no policy change, but that is not right, as it assumes that *P** does not, on average, change over time. That assumption contrasts with strong evidence that the preferred levels of spending do vary, and that they typically increase over time, particularly for domestic programs (Wlezien, 1995; Soroka and Wlezien, 2010).

[27] This dovetails with public responsiveness to spending (Wlezien 1995; Soroka and Wlezien 2010). Public opinion in year t reacts (negatively) to policy for year t and policymakers adjust policy (positively) in year t+1 based on current (year t) opinion. Now, if studying policy that, unlike budgetary policy, is not lagged, then policy change could represent year t public opinion, which in turn responds to lagged (year t-1) policy. That is, the model can be adjusted to reflect the reality of the policy process. Notice also that equation 5 captures both indirect and direct representation of public preferences. The former — representation through election results and the subsequent partisan composition of government — is captured by γ_2, and the latter — independent adjustments to preferences, mostly in between elections — by γ_1.

The implied equilibrium level of relative preferences is the point at which policymakers are comfortable letting preferences settle, in effect, policymakers' collective ideal point. A key criterion, thus, is that *R* does not drift or trend despite drifts/trends in *U* and *P*, i.e., in time series terms, *R* would be "stationary" in levels. In practice, this point is the mean value of *R*. Based on the data summarized in Table 1 (and Table 2), that point often is far away from the natural neutral, or "0," point, at least for most spending items – all but defense. Indeed, it suggests that the equilibrium preference typically is one where most people say we are spending too little. This may seem surprising, as it implies that elected officials are content to take electoral risks with the public, and not just with one segment, but many of them, recalling the high level of agreement in Table 2. However, the pattern is not all that surprising given the survey question, which registers people's unconstrained preferences. That is, there are no stipulated budget constraints: no trade-offs between spending on different programs, between spending and taxes, or between spending and deficits. Hansen (1998) has shown that taking these into account produces very different spending preference distributions. Most importantly, they lead to greater support for the status quo. It thus may be that that the public really is getting the spending it wants, at least given the budget constraints. Unfortunately, these data are available (from the American National Election Studies) for only a handful of years in the mid-1990's, and so a systematic examination is not possible.

But, does the equilibrium level of *R* (and *P*) reveal the average citizen's true point of congruence? The Downsian model and much derivative research would highlight the decisiveness of the median voter, who actually has an above average income level. Other

research noted above (Bartels 2008; Gilens 2012; Gilens and Page 2014) challenges this view, and argues that richer segments of the population dominate politics, and so the mean preferences is the point at which they are satisfied. We can glean some initial evidence from research on election outcomes that assesses the connection between public opinion and the incumbent vote. For this, consider analysis relating Stimson's (1991) policy mood variable and the US presidential vote (Wlezien N.d.). That work shows that the public tends to punish presidents the further—in either direction—mood is from its mean, and that this value works as well as any other, i.e., shifting the center point to the left or right reduces the effect of opinion "distance" on the vote. The pattern implies that the public's average mood is an electoral equilibrium and also that politicians tend to represent the average citizen on balance over time.

While strongly suggestive, the result is not definitive. Mood is a very general indicator of policy preferences, and we cannot be sure based on this analysis that the average person is getting what she wants, on average, across domains let alone in particular areas. To begin with, we want to assess the relationship within specific policy domains. We then want explicit evidence of responsiveness to the median voter.

A direct test of the focus of policy responsiveness might assess responsiveness to preferences of different groups over time. This pretty obviously requires that preferences differ across groups; otherwise, there is no clear basis for unequal representation or for assessing it. Here we are less interested in differences in the levels of preferences, as consistently different levels of support across groups matter not at all to the longitudinal relationship between preferences and policy.

(They do matter for assessments of actual congruence, and are critical to estimation of incongruence, as we will see.) As noted, there need to be differences in the variation of preferences over time, in other words, non-parallel movement, which we can correlate with spending change.

Figure 3 presents a hypothetical case, where preferences for three groups – here, income groups –move pretty much in tandem until the mid-1990's, and then diverge. At that point in time, policymakers are offered a choice. They can follow those in the middle and raise policy by a middling amount. Or they can follow the rich and raise policy by a lot. Or they can follow the poor and raise policy by a little, if at all. Who do policymakers follow? If Bartels (2008), Gilens (2012) and Gilens and Page (2014) are right, they follow the rich; indeed, it is a direct implication of their results and conclusions. Whether it is true can be tested directly, though results may not always be crystal clear (see Wlezien and Soroka 2011).

-- Figure 3 about here --

If analysis shows that policy responds to the middle group over time, and not the rich (or poor), then we might infer that the policy equilibrium is at or near the preference of the median person. We could not be absolutely sure that this is true, of course. For example, it might be that spending is consistently below the amount the average person prefers and for reasons unrelated to public preferences, say, fiscal constraints. We seemingly could infer from such an analysis that policy does not match what the rich (or poor) want, however. It is not clear, after all, how

policymakers could set policy where a group wants without responding to changes in that group's preferences, per the discussion of Figure 3.

What if we find that policy follows the preferences of the rich? Though tempting, given previous research, we still could not infer that the rich get what they want. We would be able to estimate how much difference such inequality would make for policy, however. Specifically, we can determine how much policy would be required to bridge the gap between the preferences of the rich and the middle, following Soroka and Wlezien (2008). We can quantify the value of each unit of *R* based on equation 4, which tells us how much spending we need to change *R* one unit: $-1/B_2$.[28] To estimate the effective under-representation of the middle, we can multiply the value by the difference – middle minus rich – in mean preferences. This is an estimate of the democratic deficit in the policy area where policymakers represent only the rich.[29]

Let us consider an example, specifically, welfare spending in the US. It is a salient policy domain, one where the public adjusts its preferences thermostatically in response to spending and spending follows the flow of preferences over time (Wlezien 1995; Soroka and Wlezien 2010). This public responsiveness appears to be specific to welfare, not simply the manifestation of parallel "global" responsiveness of opinion to spending on various social programs per se.[30]

[28] Note that the coefficient (B_2) is based on grand public opinion, but we also can take into account coefficients from analysis of preferences of the middle, not that we expect significant differences (see Soroka and Wlezien 2008; 2010).

[29] Notice that the approach can be applied even when a particular group does not dominate policymaking. That is, we can weight the relative influence of groups based on the regression coefficients. For example, if the coefficient predicting policy for rich opinion is ${}^{R}\gamma_1$ and that for middle opinion is ${}^{M}\gamma_1$ (and that for the poor is 0), the expected difference in policy is the observed gap between the preferences of the middle and the rich multiplied by ${}^{R}\gamma_1/({}^{R}\gamma_1 + {}^{M}\gamma_1)$. To quantify the incongruence in terms of policy, we multiply the adjusted preference gap by $-1/B_2$, where B_2 is the coefficient of thermostatic public responsiveness from equation 4.

[30] The same appears true for policy responsiveness (Wlezien 2004).

Relative preferences for welfare spending also appear to be (time-serially) stationary, as we have seen, even as spending has increased markedly over time, both in current and constant dollars. There also are meaningful differences in welfare spending preferences across income groups, which we also have seen.

Research also indicates that, when preferences of each tercile are included together in the model of spending, the coefficient of policy responsiveness is positive and statistically significant only for middle opinion (Wlezien and Soroka 2011). The coefficients (and standard errors) are as follows: low income = 0.05 (0.21), middle = 0.44 (0.25), and high = -0.14 (0.19). These results imply that spending responds solely to middle income citizens in this area. As we have discussed, we cannot be sure based on these results that spending is what the median voter wants.[31] Presumably we can infer that welfare spending is not what the rich (or poor) want at each point in time, as policymakers do not respond independently to changes in their preferences.

Suppose we had found that welfare spending follows the preferences of the rich instead of the middle. We again could not infer that policy is congruent with what affluent citizens prefer based on the results, even though the inference does comport with much conventional wisdom and some political science research (Gilens and Page 2014). We can estimate the spending difference were it the case, however, following the procedure described above. For this, we take

[31] Gilens and Page's (2014) influential research on the representation of middle and high income citizens is illustrative. Their analysis of over 1,700 power decisions demonstrates that policymakers respond to the opinion of high income citizens and not at all to those in the middle. While this is true, the rich win only 53% of the time they and the middle disagree, and the difference in win rates is only slightly higher when focusing on the set of bills each group favors, where the rich then win 37% of the time and the middle 26% (Branham, et al N.d.). What makes these results important is that they indicate that, although policymakers respond only to the rich, they do not get near everything they want.

the difference in mean support for spending (-42.0 minus -33.6, which equals -8.4) among the middle and the rich and divide it by the coefficient of feedback (-0.69) for the middle, from Wlezien and Soroka (2011). The resulting amount – the spending necessary to resolve the apparent democratic deficit – is nine percent of the mean level of welfare spending. This is not a huge number but it is not trivial either, though we also need to keep in mind that there is little basis for inferring such incongruence based on our analysis of welfare spending.[32] That is, the results indicate that welfare spending responds solely to the preferences of middle income citizens.

This case illustrates how we can glean information about opinion-policy congruence based on an analysis of over-time responsiveness.[33] The approach is limited, as it does not provide direct evidence of congruence, and also can be difficult to implement, as it requires regular measures of preferences and policy over time. It nevertheless does offer insight when we do not have measures of the public's preferred level of policy, which is the case for most government policies. The approach clearly is most useful going back in time; while we can aspire to produce better, more direct indicators in the future, any resulting innovations seemingly would prove of little use in the past.

Conclusion and Discussion

There is no escaping the conclusion that the congruence between public preferences and policy

[32] Note that there is such a basis in some other spending domains (Wlezien and Soroka, 2011) and also many non-spending domains (Gilens 2012).

[33] Analysis of policy responsiveness is not sufficient; the assessment of public responsiveness to policy outputs is required. Taking the coefficient of policy responsiveness (γ_1) together with the coefficient of feedback (B_2) allows us to assess how quickly preference disjunctures are corrected.

decisions (and outputs) is difficult to assess. This is particularly true in areas where we cannot directly measure how much policy people want, frequently because people simply do not know. As we have seen, it also is true where we have measures of absolute support for particular policies. There still is considerable evidence of a relationship between opinion and policy. There is a correlation between the two across space, specifically, countries and subnational levels of government. There also is a correlation over time. We see some evidence of congruence as well. There is consistency in the relation between public preferences for policy change and policy change itself. There even is some evidence of majoritarian congruence between support for specific policies and adoption of those policies.

That public opinion and policy are related is important, as it implies that the public has a role to play in policymaking in representative democracies. The relationship is not universal, however. It varies with the characteristics of issues and also political institutions. Even where there is a relationship, it is not perfect. Opinion and policy do not always match. Other things, like political party control of government and economic growth, matter too. It is not a mono-causal world, after all, and public opinion tells only a part of the story of policymaking in the US and other countries.

That we usually cannot directly observe whether the public is getting what it wants also is important. It ultimately may be that policymakers are not representing the public writ large, but a particular, privileged segment. It still may be that the average citizen often gets what it wants, but only because preferences of different groups in society often are quite similar (Soroka and Wlezien 2008; Enns and Wlezien 2011; Enns 2015). There already is a rapidly growing

literature on policy responsiveness to the opinions of different groups. As we have seen in the foregoing discussion, when taking into account public responsiveness to policy, we also gain indirect insight into the congruence between opinion and policy. It is not a perfect solution to be sure, and is not universally applicable, but it offers information where we do not directly observe what the public wants and whether it is getting it. Perhaps most importantly, the approach makes it possible to simulate what difference representation of various groups makes for policy given differences in public preferences.

This is not the only path forward, of course, and should not be. It is important to explore new ways to measure what the public wants and its match with policy outputs. It also is important to continue research on the positions of the public and policymakers, which allows very specific assessments of congruence. We know that positions are not the same as policy but little research directly examines the relationship and uncovers how and why they do – and do not – translate into government priorities, decisions and outputs. Political institutions surely are part of the story, and already have been shown to impact representation in various ways (see Wlezien and Soroka 2016 for a summary). The details of these effects – and others – remain to be seen.

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Table 1. Preferences for Spending, 1973-2014 (in percentages)

	Too little	About right	Too much	Net Support[a]
Crime	67.4	26.5	6.1	61.3
Education	64.2	28.8	7.0	57.2
Health	66.1	27.5	6.4	59.7
Environment	60.8	30.2	8.9	51.9
Defense	24.1	43.1	32.8	-8.7
Welfare	20.5	31.1	48.4	-27.9
Mean	50.5	31.2	18.3	32.2
Mean w/o defense	55.8	28.8	15.4	40.4

N = 29. Source General Social Survey.

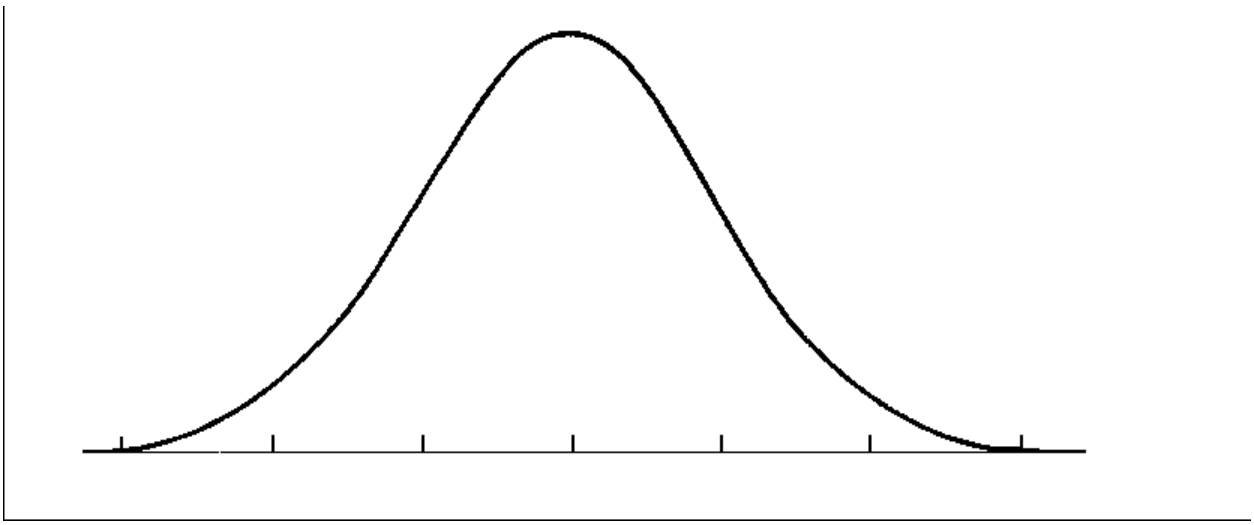
[a] The percentage saying "too little" minus the percentage saying "too much."

Table 2. Net Support for Spending, by Income Tercile, 1973-2014
(Percent "too little" minus percent "too much")

	Income Tercile		
	Low	Middle	High
Crime	61.3	63.4	**60.1**
Education	**55.3**	60.3	61.0
Health	62.5	62.1	**57.3**
Environment	**51.7**	55.8	54.5
Defense	**-10.8**	-10.9	-13.4
Welfare	**-8.5**	-32.8	-40.6
Mean absolute values	**41.7**	47.6	47.8
Mean absolute values (without defense)	**47.9**	54.9	54.7

N = 29 Source: General Social Survey. Numbers in bold indicate the income group for which net support is closest to "0," which implies closest congruence.

Figure 1: Public Opinion and Hypothetical Policy Decisions



P_1 P_2 P_3 P_4 P_5

P_1 P_2 P_3 P_4 P_5

Figure 2: Net Support for Spending on Welfare and Assistance to the Poor

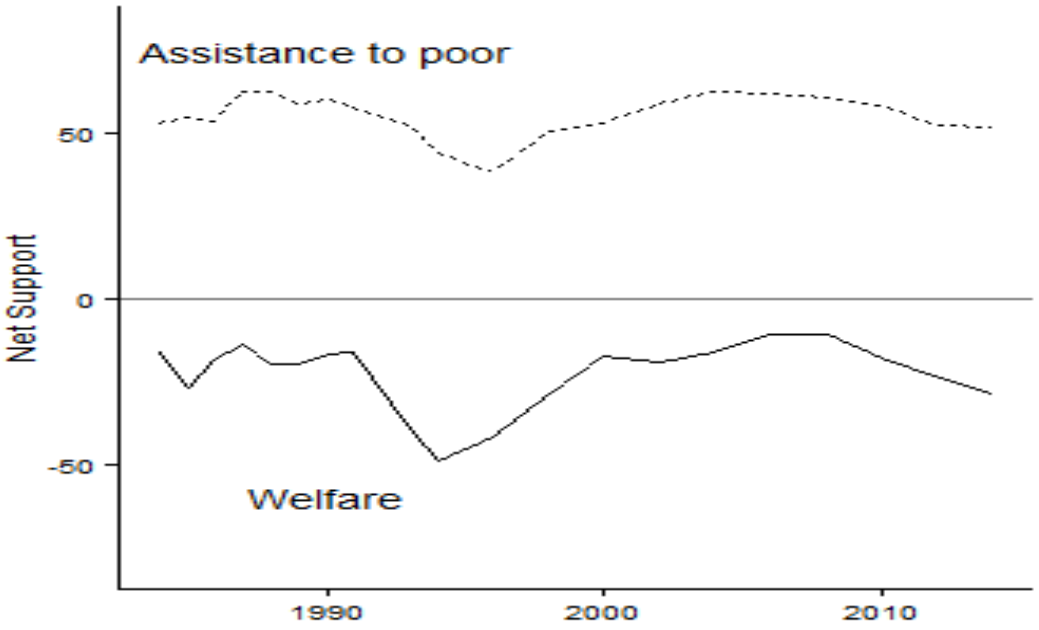


Figure 3: Public Preferences by Income Group: Who do Policymakers Follow?