Ideological Congruence and Electoral Institutions: Conceptualization and Measurement*

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A growing consensus has emerged that proportional democracies produce more ideological congruence between their citizens and representatives than majoritarian democracies. But is this consensus open to question? We argue that it is. As we demonstrate, empirical results regarding ideological congruence are likely to depend on exactly how scholars conceptualize and measure it. In addition to clarifying various aspects of how scholars currently conceptualize ideological congruence, we introduce a new conceptualization and measure of congruence that captures a long tradition in democratic theory emphasizing the ideal of having a legislature that accurately reflects the preferences of the citizenry as a whole. Our new measure is the direct counterpart for ideological congruence of the vote-seat disproportionality measures so heavily used in comparative studies of representation. Using particularly appropriate data from the *Comparative Study of Electoral Systems*, we find that governments in proportional democracies are not substantively more congruent than those in majoritarian democracies. Proportional democracies are, however, characterized by more representative legislatures. Our analysis has important implications for both comparative and American scholars interested in political representation.

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1 Introduction

Are representatives in some democracies more congruent with the ideological preferences of the people than those in other democracies? A growing consensus has recently emerged that democracies employing proportional representation (PR) electoral rules produce more ideological congruence between citizens and their representatives than democracies employing majoritarian ones (Huber & Powell 1994, Lijphart 1999, Powell 2000, Powell & Vanberg 2000, McDonald, Mendes & Budge 2004, McDonald & Budge 2005, Powell 2006, Budge & McDonald 2007).[1] For many democratic theorists, congruence is an important characteristic to be encouraged – democratic governments and legislatures are supposed to reflect the preferences of their citizens (Mill [1861, Ch. V] 1991, Dahl 1956, Pitkin 1967).[2] If the recent claims that proportional democracies produce greater congruence are true, then this would provide considerable support to those who advocate the adoption of proportional-style, rather than majoritarian-style, democracy around the world (Lijphart 1968, Lijphart 1977, Lijphart 1999).

But is this consensus open to question? We argue that it is. To date, the predominant way to conceptualize and measure citizen-representative congruence is in terms of the absolute ideological distance between the median citizen and the government. However, this is just one of several plausible ways to conceptualize congruence. As we demonstrate, empirical results regarding ideological congruence are likely to depend on exactly how scholars conceptualize and measure it. For example, scholars who conceptualize congruence purely in terms of the ideological distance between the median citizen and the government (absolute congruence) can rank the congruence of governments very differently from those who also take account of the dispersion of citizen preferences (relative congruence). This suggests that empirical results like those cited earlier linking proportional democracies to greater citizen-representative congruence may well depend critically on exactly how scholars conceptualize and measure congruence. In what follows, we will present empirical evidence that this is, in fact, the case.

This in itself is not necessarily a problem if how one conceptualizes congruence is theoretically or question driven – one simply chooses the conceptualization that is most appropriate for the research question at hand. For instance, we will argue that a concept of *relative* congruence is typically more appropriate for

[1]It is possible to think of political representation as having two components: (i) responsiveness (dynamic representation) and (ii) congruence (static representation). In this article, we focus solely on the representation literature addressing ideological *congruence* between citizens and their representatives.

[2]Ideological congruence is particularly important for those democratic theorists who emphasize substantive, as opposed to other forms of, representation (Pitkin 1967).

scholars interested in evaluating how well representatives are performing at producing congruence than the more common concept of *absolute* congruence. To a large extent, though, existing studies fail to explicitly address how ideological congruence is most appropriately conceptualized given their research goals. Indeed, it frequently appears to be the case that how the literature conceptualizes congruence is driven more by factors such as data availability and convention than by any specific theoretical or normative concerns.

In addition to clarifying central aspects of how scholars currently conceptualize ideological congruence, we introduce a completely new conceptualization and measure of congruence that captures a long tradition in democratic theory emphasizing the ideal of having a legislature that accurately reflects the ideological preferences of the citizenry as a whole (Mirabeau 1834, Burke 1949 [1770], Mill 1991 [1859]). In many ways, our new measure is the direct counterpart for ideological congruence of the vote-seat disproportionality measures so heavily utilized in comparative studies of representation (Rae 1971, Gallagher 1991, Gallagher 1992, Lijphart 1990, Taagepera & Shugart 1989, Powell & Vanberg 2000, Benoit 2001, Powell 2004). While vote-seat disproportionality measures focus on how accurately the *votes* of citizens are translated into legislative seats, our new measure of congruence more directly captures how accurately the underlying ideological *preferences* of citizens are translated into legislative seats. Given the widespread use of vote-seat disproportionality measures in the existing literature, we believe that our new conceptualization and measure of ideological congruence will prove valuable to scholars examining political representation.

We discuss how to conceptualize ideological congruence and how this can affect our empirical analyses in section two. This is followed by a reexamination of whether proportional electoral institutions produce greater citizen-representative congruence as the existing literature suggests. We start this reexamination in section three by specifying how we operationalize our different concepts of congruence and describing the data that we use to construct our new measures. We believe that our measurement of congruence offers a number of advantages over the practices and data currently employed by scholars working in this area. For example, we argue that our data source for the ideological preferences of citizens and their representatives – the *Comparative Study of Electoral Systems* (CSES) – minimizes problems with differential item functioning that are thought to affect some of the existing studies of citizen-representative congruence.[3] Our data source also has the appealing feature that it allows us to place citizen and representative preferences on the same metric.

[3]The CSES is a collaborative project involving election study teams from around the world who include a common module of survey questions in their post-election studies. The CSES data employed in this paper were downloaded on July 24, 2006. For more information on the CSES project, see `http://www.umich.edu/~cses/`.

Before proceeding to our empirical analyses, we summarize, in section four, the theoretical arguments that have been put forth linking citizen-representative congruence to the proportionality of a country's electoral system. As we illustrate, the existing literature has proposed various causal pathways by which citizen-representative congruence might be achieved under *both* proportional and majoritarian electoral rules. Finally, we present and interpret results from a series of empirical tests in section five that draw on data from 41 legislative elections in 24 parliamentary democracies.[4] In direct contrast to the overwhelming consensus in the literature (Huber & Powell 1994, Powell 2000, McDonald, Mendes & Budge 2004, McDonald & Budge 2005, Powell 2006, Budge & McDonald 2007), we find that the level of ideological congruence between citizens and their *government* is *not* substantively higher in proportional democracies than in majoritarian ones. Proportional democracies are, however, characterized by more congruent *legislatures*.

Overall, we believe that our conceptual and empirical analysis has important implications for both comparative and American scholars interested in congruence and political representation more generally. In particular, it suggests that scholars should spend more time justifying how they conceptualize congruence or showing how their results are robust to different conceptualizations.

2 Conceptualizing Congruence

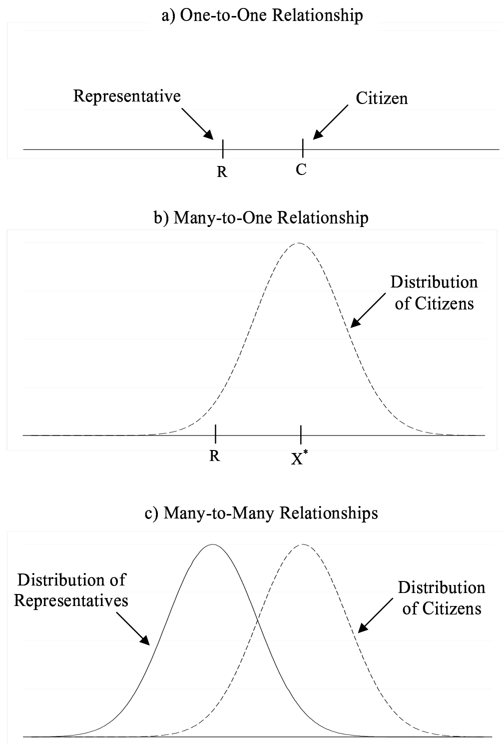
What is ideological congruence? We believe that how one conceptualizes congruence depends on whether we are thinking about a single citizen and a single representative (a one-to-one relationship), many citizens and a single representative (a many-to-one relationship), or many citizens and many representatives (a many-to-many relationship).[5] Assuming a single ideological dimension for simplicity, these three types of relationship are shown in Figure 1.[6]

[4]Our sample of countries is slightly larger than those used in previous studies, which have varied from a low of sixteen countries (Powell 2006) to a high of 21 countries (Blais & Bodet 2006, McDonald & Budge 2005, Budge & McDonald 2007).

[5]Our terminology here is deliberately distinct from references to dyadic and collective representation in the American politics literature (Weissberg 1978, Hurley 1982). In this literature, dyadic representation refers to the ideological congruence between a mean constituency opinion and a single representative, while collective representation refers to the congruence between mean constituency opinions and multiple legislators. While they might appear similar at first, it will become clear that dyadic and collective representation do not capture exactly what we mean when we speak of one-to-one and many-to-many relationships. The main reason for this is that dyadic and collective representation only ever refer to the mean constituency opinion. In addition, neither dyadic nor collective representation capture our concept of a many-to-one relationship where multiple citizens are represented by a single legislator (or government).

[6]Logically, we can think of a fourth type of 'congruence' relationship: a one-to-many relationship. In a general sense, this type of relationship captures the situation where there is a single principal and multiple agents. Thus, one might ask how well the cabinet appointees in a presidential system collectively represent the interests of the president or how congruent the collective actions of individual bureaucrats are with the preferences of their ministerial supervisor. We do not consider this type of relationship – the congruence between a single citizen and multiple representatives – in what follows.

Figure 1: Conceptualizing Congruence



Notes: X^* is the position that minimizes the distance between all the citizens.

2.1 One-to-One Relationships

As Figure 1a illustrates, conceptualizing congruence in a situation where we have a single citizen and a single representative is relatively simple – congruence is just the proximity or absolute distance between the ideological positions of the citizen (C) and the representative (R). The closer the representative is to the ideological position of the citizen, the higher the level of congruence.

> **Congruence (One-to-One):** Congruence is high when the absolute distance between the citizen and the representative is small.

From the perspective of each individual citizen, this is arguably the main conceptualization of congruence that matters – each citizen wants to know how far the representative is from her preferred position. From the perspective of the representative, though, this conceptualization of congruence makes little sense since he is always in the position of representing multiple citizens with divergent ideological preferences. As Pitkin (1967, 215) puts it, "[a] political representative . . . has a constituency rather than a single principal.” Moreover, the fact that “[t]he pure idea of democracy, according to its definition, is the government of the whole people . . . *equally represented*” requires that the representative not favor any one citizen over any other [italics added] (Mill 1991 [1859], 145). As a result, conceptualizing congruence in terms of a one-to-one relationship is not particularly useful if one wants to evaluate the congruence of representatives. However, conceptualizing congruence in this way *is* helpful as a building block as we now turn to the situation where we have many citizens and a single representative (a many-to-one relationship); this is the situation of interest in virtually all comparative and American studies of ideological congruence.

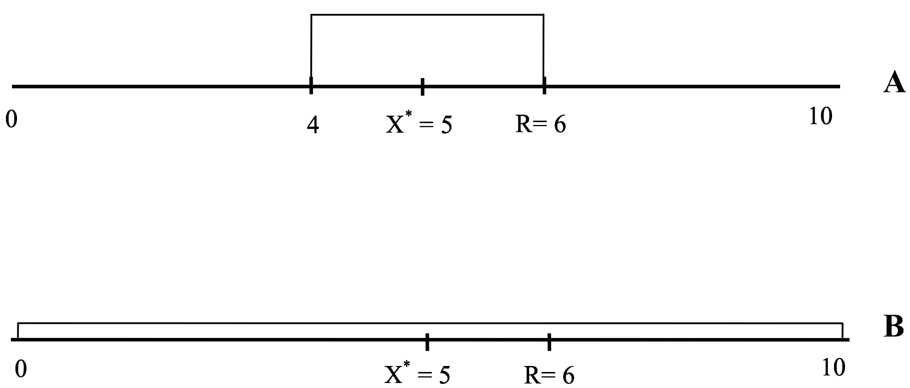
2.2 Many-to-One Relationships

As Figure 1b illustrates, we now have some distribution of citizen preferences and a single representative. Although we use the term ‘single representative’ here, we can just as easily think of the ‘single representative’ as being the policy position of a government. In other words, we can think of a many-to-one relationship as being between many citizens and a single representative or between many citizens and the policy position of a government. While the American politics literature on congruence typically asks how well a single legislator represents the citizens, the comparative politics literature that forms the focus of this article usually asks how well a government (cabinet) represents the citizens.

There are several different ways that one might plausibly think to conceptualize many-to-one congruence. In what follows, we refer to these different conceptualizations as (i) absolute median citizen congruence, (ii) absolute citizen congruence, and (iii) relative citizen congruence. As we demonstrate, some of these conceptualizations are narrower or contain less information than others; in addition, some are more appropriate to particular research questions than others. Overall, we argue that conceptualizing many-to-one congruence in terms of *relative citizen congruence* has a number of significant advantages over alternative conceptualizations. Importantly, the different ways of conceptualizing congruence can lead to quite different rankings of the same set of representatives. As such, it may well matter for our inferences which conceptualization of congruence we adopt in our empirical analyses. For this reason, we believe that it is incumbent upon scholars to better justify why they conceptualize congruence in the way that they do or to, at least, demonstrate the robustness of their empirical claims to alternative conceptualizations.

We use the two hypothetical situations shown in Figure 2 as a running example to help illustrate these points as we discuss the three conceptualizations of many-to-one congruence mentioned above in more detail. Figure 2 presents information about the position of citizens and their representatives on a single issue dimension measured on a 0-10 scale in two countries, A and B. The ideological position of the citizens' representative ($R = 6$) and the ideological position that minimizes the sum of absolute distances between all the citizens ($X^* = 5$) is the same in both countries. The only difference between the two countries is the distribution of citizen preferences. In country A, all citizens are uniformly distributed between 4 and 6; in country B, all citizens are uniformly distributed between 0 and 10.

Figure 2: Congruence in Many-to-One Relationships



Notes: X^* is the position that minimizes the sum of absolute distances between all of the citizens in countries A and B; in the context of a single issue dimension, this is the position of the median citizen in each country. R is the position of the citizens' representative.

2.2.1 Absolute Median Citizen Congruence

One way we might begin conceptualizing congruence in a many-to-one relationship is to think in terms of a citizenry's "most preferred" policy position (Huber & Powell 1994, 292-293). We believe that the ideological position with the best claim to this is the one that minimizes the sum of absolute distances between all the citizens (X^*). Much of the American politics literature on representation takes the *mean* position of citizens on an issue dimension as the citizens' most preferred policy position (Achen 1978, Berry et al. 1998, Erikson, Wright & McIver 1993). However, it should be noted that in one-dimensional space, the position of the mean citizen minimizes the sum of the *squared* distances between all citizens rather than the sum of the *absolute* distances (Schwertman, Gilks & Cameron 1990). As a result, this American literature implicitly weights some citizens more than others. We see no obvious justification for this in democratic theory. As our earlier quotation from Mill (1991 [1859], 145) points out, citizens should be "equally represented". This is why we take the citizens' most preferred policy position (X^*) as the one that minimizes the sum of *absolute* distances between the citizens. In the context of a single issue dimension, this is the position of the *median*, not the *mean*, citizen.[7]

Based on this, one might argue that congruence in a many-to-one relationship is just the extent to which the ideological position of the representative approximates the citizens' most preferred position – the closer the representative is to X^*, the higher the level of congruence. Indeed, this is how congruence is implicitly conceptualized in virtually every American and comparative study addressing ideological congruence; we know of only two studies that do not conceptualize congruence in this way (Blais & Bodet 2006, Achen 1978). Since we follow existing studies by focusing on a single left-right issue dimension in our upcoming empirical analyses, we refer to this particular conceptualization of many-to-one congruence as *absolute median citizen congruence*.[8]

> **Absolute Median Citizen Congruence (Many-to-One):** Congruence is high when the absolute distance between the median citizen and the representative is small.

2.2.2 Absolute Citizen Congruence

While absolute median citizen congruence contains some information about the congruence between citizens and their representative, it ignores all information about the distribution of citizen preferences. In effect, all that matters is the absolute distance between the median citizen and the representative. In the context of Figure 2, this would mean concluding that the representatives in countries A and B are *equally* congruent since they are equally distant from the median citizen (X^*). We suspect that many, perhaps most, scholars will feel uncomfortable reaching such a conclusion given that the representative in country A is much closer to his citizens on average than the representative in country B. One way to incorporate information about the distribution of citizen preferences would be to conceptualize many-to-one congruence as the average absolute distance between all citizens and the representative. Since this conceptualization explicitly takes

[7]In terms of our upcoming empirical analyses, it turns out that it does not matter substantively whether we conceptualize congruence in terms of the mean or median citizen. From a purely normative perspective, though, it clearly matters.

[8]Considerable research suggests that the left-right dimension is a reasonable summary of citizens' views in the context of national political debate in the countries included in our empirical analyses. For example, several studies indicate that people in these countries are able to think about public policy in terms of a left-right issue dimension and that they can meaningfully place themselves on this scale (Inglehart & Klingemann 1976, Castles & Mair 1984, Dalton 1985, Huber 1989, Huber & Inglehart 1995, Gabel & Huber 2000, Budge et al. 2001).

account of the ideological positions of all citizens rather than just that of the median citizen, we refer to it as *absolute citizen congruence*. For any single constituency, absolute citizen congruence is highest when the representative is located at the ideological position of the median citizen (X^*). Conceptualizing many-to-one congruence in terms of absolute citizen congruence would lead us to conclude that the representative in country A in Figure 2 is *more* congruent with his citizens than the representative in country B.

> **Absolute Citizen Congruence (Many-to-One):** Congruence is high when the average absolute distance between the citizens and the representative is small.

To the extent that one cares about the ideological preferences of all the citizens rather than just those of the median citizen, absolute citizen congruence would seem to be superior to absolute median citizen congruence as a way of conceptualizing many-to-one congruence.[9] To our knowledge, though, only two studies in the American and comparative literatures on congruence have adopted such a conceptualization (Achen 1978, Blais & Bodet 2006). It is worth noting at this point that the comparative analysis conducted by Blais and Bodet is the only one to challenge the consensus that proportional democracies produce greater ideological congruence than majoritarian ones (Huber & Powell 1994, Lijphart 1999, Powell 2000, Powell & Vanberg 2000, McDonald, Mendes & Budge 2004, McDonald & Budge 2005, Powell 2006, Budge & McDonald 2007). One wonders whether this might be due to the fact that they employ a different conceptualization of congruence than all of the other studies. This is a point that we will return to shortly.

One explanation for why existing studies do not take account of the distribution of citizen preferences may lie not with any conceptual difficulty or theoretical preference, but rather with data limitations that constrain empirical analyses of congruence. For example, any attempt to incorporate the distribution of citizen preferences into empirical studies comparing the congruence of representatives across states or congressional districts in American politics runs into the problem that there is scant data about these preferences at these levels of analysis.[10] Indeed, Americanists interested in representation have had to devise

[9] It is widely accepted in comparative politics that there are two distinct visions of democracy – a majoritarian one and a proportional one (Powell 1982, Lijphart 1999, Powell 2000). To simplify somewhat, advocates of majoritarian democracy argue that governments should only be responsive to the the majority, whereas advocates of proportional democracy argue that governments should be responsive to as many people as possible (Lijphart 1999, 2). This dichotomy might lead one to conclude that only advocates of proportional democracy care about incorporating information about the distribution of citizen preferences. However, majoritarians presumably care about whether governments minimize the ideological distance to all the members of the majority rather than to just the median citizen. As such, even majoritarians might wish to incorporate information about the distribution of voters when evaluating the congruence of governments.

[10] In his study evaluating the congruence of American congressmen, Achen (1978) incorporates information about the distribution of citizen preferences. However, the fact that he relies on data from Miller and Stokes (1963) means that his analysis suffers from considerable data limitations. For example, the data only cover northern congressional districts, the sample sizes for the districts

ingenious mechanisms just to come up with a good indicator of the mean citizen preference in a district (Berry et al. 1998). While this 'limited data' explanation may work to explain why studies of representation ignore the distribution of citizen preferences in the context of American politics, it does not work so well in the context of comparative politics. This is because most comparative studies examining the congruence of governments cross-nationally do have data available on the distribution of citizen preferences from mass surveys such as the *Eurobarometer* or the *World/European Values Survey*. Although these data exist, comparative studies only use these surveys to identify the ideological location of the median citizen; all the detailed information about the actual distribution of citizen preferences is ultimately discarded (Huber & Powell 1994, Powell 2000, Powell & Vanberg 2000, Powell 2006).[11] No reason is ever provided for ignoring this additional information; that this practice continues seems more a matter of convention than a deliberate choice reflecting theoretical or normative considerations.

2.2.3 Relative Citizen Congruence

While we believe that absolute citizen congruence contains useful information about the congruence between citizens and their representative, it is important to note that the maximum level of absolute citizen congruence in a country is not independent of the dispersion of citizen preferences. As we now demonstrate, this can cause potential problems if one wishes to compare the congruence of representatives across different units of analysis such as constituencies, states, countries, democracy types etc..[12] Much depends on one's research question and/or whether the left-right dimension is perceived in the same way across the different units. In sum, we argue that it is important, in many settings, to conceptualize congruence in relative, rather than in absolute, terms i.e. in terms of the distance between the citizens and their representative *relative to the dispersion of citizen preferences*. We refer to this conceptualization of many-to-one congruence as *relative citizen congruence*.

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are extremely small (roughly 5-40 respondents per district), and the survey questions and scales used to identify the ideological positions of the representative and the respondent differ.

[11]This sort of approach is not entirely restricted to comparative politics. For example, Wright, Erikson and McIver (1985) and Erikson, Wright and McIver (1993) combine dozens of New York Times/CBS News polls from 1974 through 1982 to create large samples of citizen preferences for US states. While these samples contain information on the distribution of citizen preferences, these scholars only use the estimated mean ideological positions of each state's citizenry in their analyses linking public opinion to state policy.

[12]These potential problems do not exist, or are minimized, if one only wants to compare the congruence of representatives in the same constituency. For example, conceptualizing many-to-one congruence as absolute citizen congruence is entirely appropriate if one is interested in knowing whether the winning candidate in a constituency is more congruent than the losing candidates (Achen 1978).

Relative Citizen Congruence (Many-to-One): Congruence is high when the absolute distance between the citizens and their representative is small relative to the dispersion of citizen preferences.

Note that conceptualizing congruence in terms of absolute citizen congruence automatically puts representatives in homogenous constituencies like country A in Figure 2 at a significant advantage in terms of their ability to produce congruence compared to representatives in more heterogeneous ones like country B.[13] Recall that the maximum level of absolute citizen congruence that can be achieved in a country occurs when the representative is located at the position of the median citizen (X^*). Imagine now that the representative in country B in Figure 2 is located at X^*, while the representative in country A remains in the same location as that shown. If we conceptualize many-to-one congruence as absolute citizen congruence, then we must still conclude that the representative in country A is more congruent than the representative in country B. This is the case even though the representative in country B cannot increase the congruence of his representation any further – he is performing as well as is possible – and even though the 'more congruent' representative in country A holds the most extreme position of anyone in his country.

If our research question means that we are interested in comparing the congruence of the two representatives in Figure 2 in an absolute sense, then this conclusion might make sense – the representative in country A *is* closer to his citizens on average than the one in country B. However, if our research question means that we are interested in comparing how well the representatives are producing congruence relative to what is possible, then this conclusion seems inappropriate. After all, the representative in country B in this example cannot increase congruence any further whereas the representative in country A can. In terms of relative 'performance', then, it would seem more appropriate to conclude that the representative in country B is more congruent than the one in country A. This line of reasoning suggests that if we are interested in comparing the performance of representatives at producing congruence across different units of analysis, then we should conceptualize congruence in terms of the distance between citizens and their representative *relative to the dispersion of citizen preferences*.[14] The extent to which it is important to take account of the

[13]The sample used in our upcoming empirical analyses indicates that citizen preferences are significantly more dispersed in democracies employing proportional electoral rules than in those employing majoritarian ones. This suggests that it will be harder, all things equal, for representatives in proportional democracies to produce absolute citizen congruence than representatives in majoritarian ones. This provides a potential explanation for why the only study to conceptualize many-to-one congruence in terms of absolute citizen congruence concludes, in direct contrast to all other analyses, that proportional democracies do not produce more congruence than majoritarian ones (Blais & Bodet 2006).

[14]It is important to note that this line of reasoning does *not* imply that we can continue to use a concept of absolute citizen congruence and simply control for the dispersion of citizen preferences in our empirical analyses. Without going into too much detail, simply controlling for the dispersion of citizen preferences in this way would be equivalent to employing GDP as our

dispersion of citizen preferences will obviously depend on how significantly it varies across different units of analysis. In the real world, this is likely to depend on the specific cases under consideration. For example, one might think that comparing the congruence of representatives across different units in the same country is less likely to generate inappropriate conclusions than comparing the congruence of representatives across different countries. Of course, whether this is true or not is ultimately an empirical question.

We have just argued that whether we should conceptualize many-to-one congruence in absolute or relative terms is likely to depend on our research question – as always, the aptness of a concept is hard to evaluate in the absence of a specific question. Note, though, that concepts of *absolute* congruence can only be appropriately employed in empirical analyses if the left-right issue dimension is perceived in the same way across the different units of analysis. This is not the case for concepts of *relative* congruence. By normalizing congruence relative to the dispersion of citizen preferences, relative citizen congruence avoids the use of an abstract left-right scale and provides a metric-free concept of congruence. As a result, it avoids potential difficulties with differential item functioning (DIF) that might arise if the left-right scale is not perceived in the same way in different countries (Aldrich & McKelvey 1977, Poole 1998, King et al. 2004, Alvarez & Nagler 2004, King & Wand 2007). Problems with DIF exist if (i) citizens in different countries place themselves at different points on the left-right scale even though they share identical preferences or (ii) they place themselves at the same point on the scale even though they share divergent preferences. If DIF problems were to exist, it would obviously make it extremely difficult, if not impossible, to appropriately compare the congruence of representatives across different units of analysis in absolute terms. This is the case irrespective of whether we conceptualize many-to-one congruence as absolute median citizen congruence or absolute citizen congruence.[15]

In terms of the comparative politics literature on congruence, McDonald, Mendes, and Budge (2004) present evidence that DIF is a real problem for those studies that employ mass surveys to place the median

dependent variable and controlling for population size when the concept we are trying to capture is GDP per capita. This is clearly inappropriate. Nor does this line of reasoning imply that we can just go back to evaluating the distance between the median citizen and the representative (absolute median citizen congruence). Why? By measuring the distance between citizens and their representative relative to the dispersion of citizen preferences, we are putting citizens and representatives from different units of analysis on the same scale. In effect, one can think that we are proportionately shrinking the ideological positions of citizens and representatives in country B in Figure 2 to the same scale as those in country A. It should be obvious that a representative who is further away in absolute terms from his median citizen in a heterogeneous country like B than a representative in a more homogenous country like A is from his median citizen could be more congruent in relative terms. The bottom line is that both concepts of absolute congruence that we have examined are inappropriate if we are interested in comparing the relative performance of representatives across different units of analysis.

[15] In a related literature, these same concerns with DIF have also led Alvarez and Nagler (2004) to argue that party system diversity should be conceptualized and measured relative to the dispersion of citizen preferences. Indeed, conceptualizing party system diversity in relative terms is becoming the standard in this literature (Blais & Bodet 2006, Ezrow 2007, Ezrow forthcoming).

citizen (and citizens more generally) on the left-right scale (Huber & Powell 1994, Powell 2000, Powell & Vanberg 2000, Powell 2006, Blais & Bodet 2006). For example, they note that responses on mass surveys tend to place the median citizen at the same point on the left-right scale in virtually every country even though we know that this is highly implausible given the nature of political debate in these countries. In other words, mass surveys do not seem to be capturing real *substantive* differences in policy positions across countries.[16] In this type of situation, it is inappropriate to employ concepts of absolute congruence; instead, it would be better to utilize the metric-free concept of relative citizen congruence. Despite this, we know of only one study, in American politics, that conceptualizes congruence relative to the dispersion of citizen preferences (Achen 1978).[17]

We have now presented three ways of conceptualizing many-to-one congruence. While we personally prefer to conceptualize it in terms of relative citizen congruence since this allows us to both incorporate information about the full distribution of citizen preferences and avoid any problems with DIF, we realize that other scholars may well have different preferences. What we hope everyone will agree with, though, is that how one chooses to conceptualize many-to-one congruence can affect how one ranks a set of representatives. For example, we have already seen how we can conclude that the representatives in countries A and B in Figure 2 are equally congruent (absolute median citizen congruence), that the representative in country A is more congruent (absolute citizen congruence), or that the representative in country B is more congruent (relative citizen congruence). Indeed, we should note that the potential to come up with these different rankings is not just theoretical. In our upcoming empirical analyses, we construct measures capturing all three ways of conceptualizing many-to-one congruence. Out of a total of 41 governments, we rank the 2003 Israeli government 4th in terms of relative citizen congruence, 19th in terms of absolute median citizen

[16] This DIF problem is potentially mitigated, though certainly not eradicated, by the fact that studies employing mass surveys to measure congruence in absolute terms are not directly comparing substantive policy positions across countries; instead, they are comparing the *distances* between governments and their (median) citizens. As a result, they need only assume that these *distances*, and not the actual *positions*, are meaningful across countries (Powell 2006, 296). However, even if this assumption were appropriate, significant problems with DIF remain since all of these studies compare the distance between *citizen* self-placements and *expert* placements of representatives on the left-right scale (Huber & Powell 1994, Powell 2000, Powell & Vanberg 2000, Powell 2006). The fact that citizen self-placements appear to exhibit few if any real substantive cross-national differences while experts are explicitly expected to place parties so as to capture substantive differences implies that a DIF problem still exists – citizens and experts are not viewing the left-right scale in the same way. In fact, we will present strong evidence that this is empirically the case in a moment.

[17] Recently, Ezrow (2007) has brought up the issue of variance in citizen preferences with respect to democratic representation. For example, he calls on political scientists to complement "traditional macrolevel empirical analyses of policy representation . . . , which emphasize responsiveness to the center of public opinion, by also considering the responsiveness of a party system as a whole to the *distribution of voters' policy preferences*" (2007, 191). Our study differs from Ezrow's in a number of ways. Most importantly, he is interested in responsiveness (dynamic representation), whereas we are interested in congruence (static representation).

congruence, and 35th in terms of absolute citizen congruence. There are many examples like this that we could give.

The potential for these different rankings suggests that empirical claims made in the comparative and American literatures on congruence, such as the claim that proportional democracies produce greater citizen-representative congruence than majoritarian democracies, may depend heavily on the particular conceptualization of congruence that scholars adopt. As a result, we believe that it is important for scholars to better justify why they conceptualize (and, ultimately, measure) congruence in the way that they do or to demonstrate that their claims are robust to alternative conceptualizations. As we have suggested, it frequently appears that the choice of how to conceptualize congruence is driven more by factors such as data availability and convention than by any specific theoretical or normative concerns. In the upcoming empirical analyses, we examine, for the first time, how alternative conceptualizations of congruence influence the relationship between the proportionality of electoral institutions and the level of ideological congruence between citizens and their government.

2.3 Many-to-Many Relationships

As the previous section indicates, most comparative scholars interested in representation have focused their attention on how congruent governments are with their citizens (a many-to-one relationship). To a large extent, the reason for this is that these scholars are ultimately interested in how congruent *policy* is with citizen preferences and they believe that governments generally play the decisive role in the policy-making process.[18] While the goal of this research agenda is extremely valuable, some may also want to know how accurately the *collective* body of representatives (legislature) reflects the ideological positions of the citizens. In other words, some may be more interested in how substantively representative the legislature as a whole is – if 10% of the population holds communist policy preferences, do communists hold 10% of the legislative seats etc.? – than in the congruence between citizen preferences and the (expected) policy outcome. This could be because they value this type of substantive representation on *a priori* grounds and want to know how it can be brought about. It could also be because they wish to know whether substantively representative legislatures increase things like perceived levels of democratic legitimacy and responsiveness,

[18] Some scholars who believe that legislatures play a significant role in the policy-making process, either directly or through their influence on the government formation process, have examined how congruent the median legislator is with the preferences of the median citizen (Powell & Vanberg 2000, McDonald, Mendes & Budge 2004, Blais & Bodet 2006).

satisfaction with democracy, political participation, or personal efficacy and trust in the political process.[19] These research questions cannot be satisfactorily addressed by focusing on the congruence between citizen preferences and the government (or median legislator) since this does not take account of the ideological composition of the legislature as a whole. However, they can be addressed if we explicitly conceptualize congruence in terms of a many-to-many relationship where we have many citizens and many representatives. As Figure 1c illustrates, this is a situation where we have a distribution of citizen preferences and a distribution of representative preferences.

An emphasis on the importance of having a representative body whose preferences accurately correspond to those of the nation as a whole has a long history in democratic theory dating back at least as far as the 17th century (Pitkin 1967, Skinner 2005). For example, Mirabeau (1834, 7) states in a speech before the French Constituent Assembly in January 1789 that, "[a] representative body is for the nation what a map drawn to scale is like for the physical configuration of its land; in part or in whole the copy must always have the same proportions as the original." Similarly, Burke (1949 [1770], 28) writes that the "virtue, spirit, and essence" of a representative body lies "in its being the express image of the feelings of the nation", while Mill (1991 [1859], 116) claims that a legislature should be "an arena in which not only the general opinion of the nation, but that of every section of it, . . . , can produce itself in full light".

One simple way to conceptualize the type of ideological congruence desired by these democratic theorists is in terms of the similarity between the distributions of citizen and representative preferences – the greater the similarity, the higher the level of congruence.

Congruence (Many-to-Many): Congruence is high when the distributions of citizen and representative preferences are similar; it is perfect when the two distributions are identical.

To our knowledge, there is no research on representation that explicitly conceptualizes ideological congruence as a many-to-many relationship. A small literature in American politics examines how well legislators *collectively* represent the mean constituency opinions in the country (Weissberg 1978, Hurley 1982). While one might argue that this particular literature does conceptualize congruence as a many-to-many relationship, only a subset of the many citizens – the mean citizen in each district – is ever included

[19] These types of questions have been heavily addressed by scholars who emphasize *descriptive* representation i.e. how accurately legislatures mirror the gender or racial makeup of the citizenry (Mansbridge 1999, Gay 2001, Tait 2002, Pantoja & Segura 2003, Banducci, Donovan & Karp 2004, Atkeson & Carillo 2007, Karp & Banducci 2007, Lublin & Segura 2008). However, they have drawn less attention from those who view representation in terms of substantive or ideological preferences. One potential reason for this is the lack of a measure that adequately captures the concept of many-to-many congruence. We provide such a measure shortly.

in the analysis. Ultimately, we do not believe that these studies of congruence come close to capturing the conceptualization of congruence proposed by democratic theorists like those cited above. Our upcoming empirical analysis, therefore, represents the first attempt to evaluate congruence in a many-to-many setting.

3 Measuring Congruence

Having discussed how to conceptualize ideological congruence and how this can affect our empirical analyses, we now turn to a reexamination of whether proportional electoral institutions produce greater congruence as the existing literature suggests. In this particular section, we outline the measures we use to operationalize our conceptualizations of congruence in many-to-one and many-to-many settings. We also describe the data that we employ to construct our measures. In doing so, we make the case that our measurement of congruence offers a number of advantages over the practices and data currently employed by scholars working in this area.

3.1 Measures (Many-to-One)

In a many-to-one relationship, we are interested in how congruent the ideological position of the government is with the preferences of its citizens. Recall that we provided three alternative conceptualizations of many-to-one congruence. We operationalize *absolute median citizen congruence* as:

$$\text{ABSOLUTE MEDIAN CITIZEN CONGRUENCE} = |MC - G| \tag{1}$$

where MC is the ideological position of the median citizen and G is the location of the government. Ever since it was employed in the seminal article by Huber and Powell (1994), this has been the measure of choice in all but one of the subsequent studies of congruence in comparative politics (Powell 2000, Powell & Vanberg 2000, McDonald, Mendes & Budge 2004, McDonald & Budge 2005, Powell 2006, Budge & McDonald 2007).[20] We operationalize *absolute citizen congruence* as:

$$\text{ABSOLUTE CITIZEN CONGRUENCE} = \frac{1}{N}\sum_{i=1}^{N}|C_i - G| \tag{2}$$

[20]Like other studies, Huber and Powell (1994) actually refer to the median *voter* rather than the median *citizen* (Powell 2000, Powell & Vanberg 2000, Powell 2006, Blais & Bodet 2006) . However, they draw information about the ideological position of this individual from mass surveys of citizens, not mass surveys of voters. Other studies focus more explicitly on the median voter (McDonald, Mendes & Budge 2004, McDonald & Budge 2005, Budge & McDonald 2007).

where N is the number of citizens and C_i is the ideal point of the i^{th} citizen. Finally, we operationalize *relative citizen congruence* as:[21]

$$\text{RELATIVE CITIZEN CONGRUENCE} = 1 - \frac{\sum_{i=1}^{N} |C_i - MC|}{\sum_{i=1}^{N} |C_i - G|} \tag{4}$$

This measure of relative citizen congruence ranges from 0 to 1. If the ideological location of the government is at the position that minimizes the sum of absolute distances between all the citizens (MC), then RELATIVE CITIZEN CONGRUENCE will be 0. The further the position of the government is away from this position, the closer the RELATIVE CITIZEN CONGRUENCE score will be to 1. In effect, the measure captures the average distance of a citizen from the citizens' most preferred position (MC) relative to the average distance of a citizen (C_i) from the government (G). The lower the score on all three measures, the better the congruence between citizens and their government.

We measure the ideological position of the government as the weighted average of the positions of the parties in the cabinet, in which the weights are the parties' share of legislatives seats controlled by the government.[22] Our measure of the government's position collapses to the position of the party in power if there is a single-party cabinet. An appealing aspect of our measure is that it is consistent with empirical research on Gamson's Law showing that cabinet portfolios tend to be distributed among governmental parties in proportion to the number of seats that each party contributes to the government's legislative support (Gamson 1961, Druckman & Warwick 2001, Druckman & Warwick 2006). It is this basis in empirical evidence that makes this particular measure of the government's position superior to alternatives that focus on the median legislator, the majority party in the government, or veto players (Powell 2006, 302-303).

[21] Our measure of relative citizen congruence is adapted from Kollman, Miller and Page's (1992, 1998) research on electoral landscapes and party system centrality. An alternative measure with similar properties comes from Achen (1978, 487):

$$\text{Achen's CONGRUENCE} = D - V^2 \tag{3}$$

where $D = \frac{1}{N}\sum_{i=1}^{N}(C_i - G)^2$ is the average squared distance between each citizen (C_i) and the government (G), $V^2 = \frac{1}{N-1}\sum_{i=1}^{N}(C_i - \bar{C})^2$ is the unbiased variance in citizen preferences, $\bar{C}$ is the mean citizen position, and N is the number of citizens. As our empirical analyses will demonstrate, our inferences are unaffected if we use this alternative measure of relative citizen congruence.

[22] More precisely, the position of the government is measured as

$$G = \sum_{i=1}^{P} \left(\frac{S_i}{S_{gov}}\right) P_i \tag{5}$$

where S_i is the number of legislative seats controlled by the i^{th} governmental party, S_{gov} is the number of seats controlled by the government as a whole, P_i is the ideological position of the i^{th} governmental party, and P is the number of governmental parties.

3.2 Measure (Many-to-Many)

In a many-to-many relationship, we are interested in how congruent the ideological positions of the representatives in the legislature are with the substantive preferences of the citizens. This requires evaluating how similar the distributions of citizen and representative preferences are on the left-right issue dimension. We do this with the following measure:

$$\text{CONGRUENCE (MANY-TO-MANY)} = \sum_x |F_1(x) - F_2(x)| \tag{6}$$

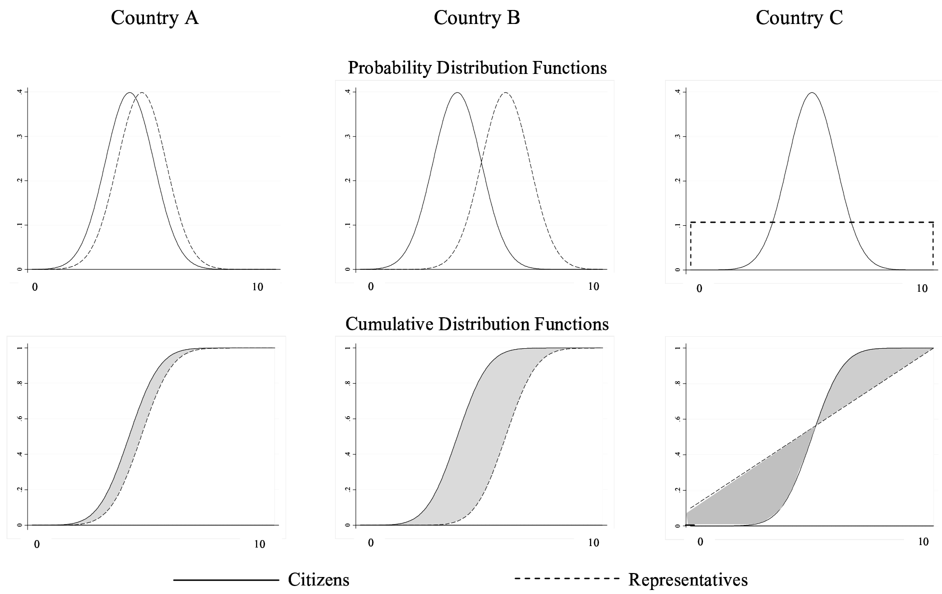
where $F_1(x)$ and $F_2(x)$ are the *cumulative* distribution functions (CDFs) for the citizen and representative preferences. Essentially, this measure captures the area between the CDFs for the citizens and representatives. When the ideological preferences of the citizens and representatives are identically distributed on the left-right issue dimension, then the area between their CDFs will be zero. In this situation, many-to-many congruence will be perfect. As the distributions of citizen and representative preferences begin to differ, either in terms of their shape and/or location in the issue space, then the area between the CDFs will grow, indicating a decline in many-to-many congruence. In our upcoming empirical analyses, we assume that all legislative representatives from the same party share the ideological position of their party. Although we are forced to make this assumption due to data constraints, this assumption is not too unrealistic given the highly cohesive nature of party voting in the parliamentary democracies that comprise our sample (Laver & Schofield 1990).[23]

Given that our measure of many-to-many congruence is new, an example might help to clarify exactly how it works.[24] Figure 3 illustrates three hypothetical countries, A, B, and C. While the top row of Figure 3 shows the probability distributions on a 0-10 left-right issue dimension for the citizens and representatives in each country, the bottom row shows their associated cumulative distributions. As already indicated, our measure of many-to-many congruence is captured by the shaded area between the cumulative distributions. Let's start by comparing the ideological preferences of citizens and representatives in countries A and B. In

[23] Previous studies in the congruence literature make the same assumption when attempting to locate the ideological position of the median legislator (Powell & Vanberg 2000, McDonald, Mendes & Budge 2004).

[24] A relatively large literature addressing the similarity between different probability distributions exists in statistics. Our measure of many-to-many congruence shown in Eq. (6) is related to the Kolmogorov-Smirnov test statistic that is commonly used to determine whether two one-dimensional probability distributions are the same (DeGroot & Schervish 2002, 566-574). There are other statistical methods, such as the Kullback-Leibler divergence, that are sometimes employed to evaluate the similarity of different probability distributions as well. However, many of these methods have the drawback that they are not true 'distance' metrics since they are not symmetric i.e. it matters whether you are comparing the similarity of distribution A with distribution B as opposed to the similarity of distribution B with distribution A.

Figure 3: Measuring Many-to-Many Congruence



both countries, the shape of the citizen and representative probability distributions are identical. The only difference is that the probability distribution for the representatives in country B is located further to the right, away from that of the citizens, in country B than in country A. As the associated graphs of the cumulative distributions clearly illustrate, this decreased level of many-to-many congruence in country B is captured by a larger shaded area and, hence, a higher value for our CONGRUENCE (MANY-TO-MANY) measure. It is easy to see that the size of the shaded area would continue to grow if the probability distributions of the citizens and representatives moved further apart. Now let's turn to country C. In a loose sense, the 'location' of the citizen and representative probability distributions are identical – they are both centered at point 5 on the left-right issue dimension. However, the shapes of the two probability distributions differ quite considerably. Specifically, the preferences of the citizens are normally distributed, while those of the representatives are uniformly distributed across the issue space. As the associated graph of the cumulative distributions in country C illustrates, this difference in the shape of the two probability distributions is clearly captured by our measure of many-to-many congruence i.e. the shaded area. As the different situations in these three hypothetical countries indicate, our measure of many-to-many congruence has the appealing feature that it captures differences in both the *shape* and/or *location* of citizen and representative preferences.

In many ways, our new measure is the direct counterpart for ideological congruence of the vote-seat disproportionality measures that are used so frequently in comparative studies of representation (Rae 1971, Gallagher 1991, Gallagher 1992, Lijphart 1990, Taagepera & Shugart 1989, Powell & Vanberg 2000, Benoit 2001, Powell 2004). When it comes to evaluating representation, one common criticism of vote-seat disproportionality measures is that they focus entirely on how accurately the votes of citizens are mechanically translated into legislative seats and ignore how the underlying ideological preferences of citizens are strategically translated into votes in the first place (Powell 2004, 282). To the extent that representation refers to citizen *preferences* rather than *votes*, this suggests that vote-seat disproportionality scores can be a potentially problematic measure of representation under some circumstances. As Lijphart (1994, 97) notes, votes are only likely to be a good guide to underlying preferences when the electoral institutions and party system in a country provide citizens with a 'complete' set of choices and few incentives to vote strategically. An appealing feature of our proposed measure of many-to-many congruence, then, is that it directly captures both the strategic and mechanical aspects of representation by explicitly focusing on how accurately ideological preferences are translated into legislative seats (Cox 1997, Clark & Golder 2006).[25] Given the widespread use of vote-seat disproportionality scores as measures of representation in the existing literature, we believe that our new conceptualization and measure of many-to-many congruence will prove valuable and open up new avenues of research for scholars examining a wide range of questions related to political representation.

3.3 Data

In order to construct our measures of citizen-representative congruence, we need data on the ideological position of citizens and parties on the left-right issue dimension. We obtain these data from the ongoing *Comparative Study of Electoral Systems* (CSES) project, which currently comprises 70 election surveys in 36 countries from 1996 to 2005. In the upcoming empirical analyses, we focus specifically on legislative elections in non-presidential democracies. One reason for this is that the government formation process and allocation of portfolios in presidential democracies is quite distinct from those in parliamentary ones (Przeworski, Cheibub & Saiegh 2004, Amorim Neto 2006, Cheibub 2007). A second reason is that it makes our results more comparable to those reported in the existing literature. Our sample includes 41 legislative

[25]It is possible to think of legislative representation as a two-step process in which preferences are first translated into votes (strategic) and then votes are translated into seats (mechanical). It is important to recognize that we are not claiming that vote-seat disproportionality scores are uninformative, just that they only tell us about the mechanical aspect of representation. In contrast, our measure of many-to-many congruence captures both the mechanical and strategic aspects of representation. Our measure could be adapted to focus exclusively on the strategic aspect of representation by using party votes, rather than party seats, for the cumulative distribution function of the representatives in Eq. (6).

elections in the following 24 countries: Australia, Belgium, Bulgaria, Canada, Czech Republic, Denmark, Finland, France, Germany, Hungary, Iceland, Ireland, Israel, Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Slovenia, Spain, Sweden, Taiwan, and the United Kingdom.[26]

The CSES surveys ask respondents to place themselves on a scale from 0 to 10, where 0 means the left and 10 means the right. The CSES surveys also ask respondents to place up to nine parties on the same left-right scale. We use the mean placement of each party by the top 40% of educated respondents in each country as an estimate of the actual placement of the party on the left-right dimension (Alvarez & Nagler 2004). The motivation for using only the most highly educated respondents to place the parties comes from research by Alvarez and Franklin (1994, 681-684) showing that uninformed (uneducated) voters tend to place a party that they are unfamiliar with in the middle of the issue dimension rather than report no opinion at all. This suggests that samples comprising a large number of uninformed voters will tend to produce party placements that converge to the middle of the issue scale, thereby hiding the true ideological variation in the party system. Using only the most educated respondents to place the parties is designed to ameliorate this problem. As it turns out, we obtain similar results from our empirical analyses if we use the mean of all respondents to place each party rather than just the mean of the 40% most educated.

We believe that obtaining estimates of citizen and party positions on the left-right issue dimension by using CSES data has a number of advantages over the data sources employed by previous studies. One of the main advantages is that the CSES data allow us to place citizens and parties on the same metric; this is something that few other data sources permit. Indeed, Erikson (2006, 674) notes in his recent *APSR* commentary on Miller and Stokes (1963) that the inability to place citizens and representatives on the same metric continues to be “a limitation that frustrates contemporary work on representation”. To illustrate other advantages enjoyed by the CSES data, it is informative to examine the types of data employed by previous studies.

Existing studies of congruence can essentially be divided into two types. One set of scholars has employed a combination of citizen self-placements on the left-right issue dimension and party placements based on ‘expert’ assessments (Huber & Powell 1994, Powell 2000, Powell & Vanberg 2000, Powell 2006). For example, Powell (2006) combines citizen self-placements from mass surveys conducted by *Eurobarometer* and the *World Values Survey* with party placements taken from expert surveys conducted by Castles

[26]One might plausibly argue that the salience of the left-right issue dimension is weaker in countries like Taiwan or in the newly democratic countries of Eastern Europe. However, our upcoming results do not depend on whether we include or exclude one or all of these particular countries from our sample.

and Mair (1984) and Huber and Inglehart (1995). As mentioned earlier, one problem with this approach is that the use of these two different data sources to estimate citizen and party positions raises a potentially significant differential item functioning (DIF) problem since experts and citizens are unlikely to see the issue space identically (Alvarez & Nagler 2004, McDonald, Mendes & Budge 2004). In fact, there is considerable evidence from the CSES data themselves that DIF is a real problem. In addition to asking citizens to place parties on the left-right scale, country experts are also asked to place the parties on the same scale. Of the 217 cases in which experts and citizens are asked to place the same parties on the left-right scale, a difference in means test reveals a statistically significant difference at the 95% level or greater in 195 (90%) of the cases. Indeed, citizen and expert placements of parties are over 1 point apart in 25% of the cases and over 1.5 points apart in 12% of the cases.[27] Even if one were to ignore DIF problems of this sort, the fact that these citizen and expert surveys are not conducted at the same point in time (often several years apart) and do not necessarily employ the same scales or wording raises significant validity concerns.[28] The CSES data set avoids all of these problems by having (i) citizens place themselves and the parties on (ii) the same 0-10 scale at (iii) the same point in time.

A second set of scholars uses party manifesto data from the Comparative Manifesto Project (CMP) to obtain voter and party placements on the left-right issue dimension for the post-war period (Budge et al. 2001, Kim & Fording 2001, McDonald, Mendes & Budge 2004, McDonald & Budge 2005, Budge & McDonald 2007). In this approach, party positions are estimated by subtracting the percentage of statements in a manifesto devoted to thirteen issues that are construed as 'left-wing' from the percentage of statements devoted to thirteen issues that are construed as 'right-wing'. A party that devotes its entire program to the left-wing issues would score -100, while a party that devotes its entire program to the right-wing issues would score +100 (Budge et al. 2001, 21-24). The position of the median voter is estimated by taking ac-

[27]We believe that similar DIF problems are likely to exist in previous studies since there is no obvious reason to believe that the experts asked to place parties in the CSES survey are drawn from a different population than the experts asked to place parties in other surveys. To some extent, problems with DIF could be corrected for if experts placed parties differently to citizens in a systematic way. However, the CSES data provide no evidence that this is, in fact, the case.

[28]In his most recent study, Powell (2006, 296) assumes that expert placements of parties are accurate within five years either side of the time the surveys take place (Castles and Mair's 1982 survey covers the 1977-1987 period, while Huber and Inglehart's 1993 survey covers the 1988-1998 period) and that citizen self-placements are accurate within an eighteen month window either side of a legislative election. Theoretically, this means that Powell's congruence measures could be based on data from experts and citizens that differ by up to six and a half years. Other studies employ different coding schemes. For example, Powell and Vanberg (2000, 389) assume that data from Castles and Mair's 1982 survey can be used for an election as early as 1975 (Austria), whereas Huber and Powell (1994, 301) assume that the same data can only be appropriately used for the 1978 to 1985 period. The instructions given to the experts in the two surveys also differ in potentially significant ways. For example, Castles and Mair (1984, 75) ask experts to place parties that belong to particular families such as the ultra-left (0), moderate left (2.5), center (5), moderate right (7.5), and ultra-right (10) at specific points on a 0-10 scale; in contrast, Huber and Inglehart provide no instructions on where experts should place particular parties on a 1-10 scale.

count of the estimated party positions and the percentage of votes that these parties won at election time. The most important problem with this approach for the purposes of this article is that it can only produce an estimate of the median voter's position – it does not provide accurate information as to the actual distribution of citizen preferences.[29] As a result, it is not possible for scholars employing CMP data to measure ABSOLUTE CITIZEN, RELATIVE CITIZEN, or MANY-TO-MANY CONGRUENCE in any meaningful sense. A second problem is that by focusing on the *percentage* of left-right statements, it would seem that CMP scholars are capturing the relative emphasis or salience that a party places on left-right issues rather than a party's substantive left-right policy position (Laver & Garry 2000).[30] A third problem is that the constituent elements of the CMP measure – the 26 issues that are construed as left- or right-wing – are the same for all countries and all time periods. As a result, CMP scholars cannot capture contextual or temporal differences in the meaning of the left-right dimension (Benoit & Laver 2007, 94). This is potentially problematic given the relatively large number of countries and the long temporal coverage of the CMP data set. None of these problems exist with using CSES data to capture citizen and party positions.

As should now be clear, CSES data hold out a number of advantages over existing data sources for estimating the ideological positions of citizens and parties. However, it is important to recognize that the CSES data, like the other data sets already mentioned, have their own potential limitations. One is the relatively short period of time for which CSES data are currently available (1996-present). In addition to limiting the sample size, this suggests that CSES scholars should be somewhat cautious when it comes to generalizing their results across time. For the purposes of this article, though, we see no obvious theoretical reason why the relationship between electoral institutions and citizen-representative congruence would be different before 1996 than afterwards.

Another potential limitation is that mass surveys like the CSES may well be capturing the *perceived*, rather than the *objective*, positions of both citizens and parties. This turns out not to be a problem if we are interested in evaluating how well citizens feel they are being represented; indeed, it would seem to be an advantage in these circumstances. Arguably, CSES scholars are not alone in struggling to know for sure

[29] In fact, even the position of the median voter can only be estimated under the rather strong assumption that all voters cast ballots for the party closest to them i.e. sincere and spatial voting. This particular assumption is empirically contradicted by the growing evidence that voters engage in strategic, directional, or outcome-oriented voting (Alvarez & Nagler 2000, Kedar 2005) and take account of non-ideological factors such as party identification, evaluations of party leaders, perceived issue competence etc. (Clarke et al. 2004).

[30] As Laver and Garry (2000, 620) put it, "[w]hatever subsequent use has been made of their data, [CMP] researchers set out to measure the *relative emphasis* placed on an issue by a party in a manifesto, not the party's *substantive position* on this issue. Position and emphasis are quite distinct parameters of party policy."

whether they are capturing the objective or perceived ideological positions of citizens and parties.[31] Even CMP scholars who explicitly claim to be capturing the objective positions of political parties are basing their results on policy promises that party leaders have chosen to place in their manifestos. It seems to us that manifestos are, at least to some extent, as much about factional compromises and how parties choose to present themselves to the electorate as they are about what the party objectively stands for. The objective positions of citizens are equally difficult to pin down. Even mass surveys can only guarantee that they are capturing a citizen's perception of his or her own ideological position. With this in mind, it is probably wise for scholars using any of the existing data sources to be cautious about making claims concerning the level of *objective* congruence between citizens and their representatives.

4 Theorizing Congruence

Before proceeding to our empirical analysis, we now briefly summarize the theoretical arguments that have been proposed linking the proportionality of a country's electoral system to its citizen-representative congruence. As we illustrate, the existing literature has proposed various causal pathways by which ideological congruence can be achieved under both proportional and majoritarian electoral rules.

4.1 Proportional Electoral Rules

According to the literature, there are strong arguments as to why countries with proportional electoral rules might be characterized both by congruence between citizens and their government (many-to-one congruence) and between citizens and their representatives in the legislature (many-to-many congruence). In order to produce a legislature that faithfully reflects the preferences of as many citizens as possible, there needs to be a wide variety of political parties located across the whole range of the citizen distribution on the left-right issue dimension. There are good theoretical reasons why proportional (PR) electoral rules might produce exactly this. At one level, Duverger's theory predicts that PR systems are likely to be characterized by multiple parties (Duverger [1954] 1963, Cox 1997, Clark & Golder 2006). At another level, spatial theories of party competition predict that PR systems will create centrifugal incentives for parties to carve out niche

[31] This raises a problematic issue of what we even mean by the *objective* position of a political party. As Powell (2007) asks, does the objective position of a party refer to its image, behavior, promises, or something else?

electorates by dispersing throughout the policy space (Cox 1990).[32] The combination of Duverger's theory and spatial theories of party competition leads to the prediction that countries with PR electoral rules should produce congruence between citizens and their legislative representatives (many-to-many congruence).

There are also good reasons having to do with theories of coalition formation why PR systems might also produce congruent governments under a wide range of situations. The fact that PR systems are expected to produce legislatures that faithfully reflect citizen preferences means that the median legislative party - the party with the median legislator – should be located fairly close to the median voter. Recall that a government located at this position would produce maximum congruence. Given that PR systems typically produce fragmented legislatures, it is highly unlikely that a single party will control a majority of legislative seats. As a result, PR electoral rules tend to generate coalition governments. The requirement in parliamentary democracies that the government enjoy the support of a legislative majority places the median legislative party in a position of power in any government formation process. Given the literature's focus on a single left-right issue dimension, the median legislative party is a 'very strong' party whose support is necessary to form any government (Laver & Shepsle 1996). This means that the median legislative party will be able to pull the policy of any government that forms towards its own ideological position and, hence, towards the position of the median voter. As a result, countries with PR electoral rules can also be expected to produce congruence between citizens and their government (many-to-one congruence).

4.2 Majoritarian Electoral Rules

According to the literature, there are also strong arguments as to why countries with majoritarian electoral rules might be characterized by congruence between citizens and their government. At one level, Duverger's theory predicts that majoritarian rules will be characterized by two-party systems (Duverger [1954] 1963, Clark & Golder 2006). At another level, spatial theories of party competition predict that political parties in countries with majoritarian systems will converge to the center of the policy space. According to Downs' (1957) *Median Voter Theorem*, political parties will converge on the position of the median voter. Less restrictive spatial models of party competition predict that majoritarian systems tend to create centripetal incentives for parties to converge on centrist positions relative to the electorate as well (Cox 1990). Other

[32]It is worth noting that the dispersion predicted by spatial theories is *relative* to the electorate rather than to some abstract left-right policy space (Cox 1990, 913). Thus, 'dispersion' does not necessarily guarantee the existence of parties with 'extreme' policies; the existence of such parties will ultimately depend on the dispersion of the electorate. This particular characteristic of spatial theories would suggest another reason why it is important to measure congruence relative to the dispersion of the electorate.

spatial models also predict convergence to the center of the policy space even when there are multiple issue dimensions (Kollman, Miller & Page 1992, Kollman, Miller & Page 1998). By combining the prediction from Duverger's theory that there will be few parties in majoritarian systems and, hence, a greater likelihood of single-party majority governments, with the result from spatial theories of party competition that parties will converge to the center of the policy space, we obtain the prediction that governments in majoritarian democracies will be congruent with citizen preferences (many-to-one congruence).

What about congruence between citizens and their legislative representatives, though? The combination of Duverger's theory with spatial theories of party competition might lead one to expect that majoritarian systems will not produce legislatures that accurately reflect the diversity of preferences in society. In other words, one might expect low levels of congruence between the preferences of citizens and legislators because the number of parties is low and because the parties that do exist are forced to converge to the center of the distribution of citizen preferences. However, this inference may not be entirely justified. This is because there is reason to believe that the distribution of citizen preferences is itself endogenous to the number and ideological position of the parties. As Downs (1957, 124-125) notes,

> "the number of parties in existence molds the political views of rising generations, thereby influencing their positions on the [left-right] scale. In a [majoritarian system], since a two-party system is encouraged and the two parties usually converge, voters' tastes may become relatively homogenous in the long run; whereas the opposite effect may occur in a proportional representation structure."

If Downs is correct, then the fact that one might expect only a few parties located towards the center of the citizens' distribution of preferences does not necessarily imply that majoritarian democracies will automatically produce low levels of congruence between citizens and their legislators (many-to-many congruence).

4.3 Comparing Proportional and Majoritarian Electoral Rules

As we have demonstrated, the existing literature provides various causal paths by which 'congruence' might be achieved in both majoritarian and proportional democracies. However, none of the posited causal paths shown above actually predicts whether the *level* or *frequency* of congruence will be higher under PR systems or majoritarian ones. This has led several scholars to conclude that it is not possible to theoretically predict whether citizen-representative congruence will be higher under one type of electoral system or another

(Huber & Powell 1994, Powell 2000, Powell & Vanberg 2000).

Recently, a number of authors have challenged this conclusion. For example, Powell (2006) argues that we should expect greater congruence under PR systems on the grounds that the necessary theoretical conditions for producing congruence in majoritarian systems are more stringent and demanding than those for producing congruence in proportional ones. Budge et al. (2007) reach a similar empirical prediction based on what we might call a 'theory of gaps'. Specifically, they note that "[p]arties stand in divergent locations, and thus the positions of parties controlling ... governments leave gaps along a policy dimension. A median voter position almost assuredly resides at a position in one of the gaps ... Relatively speaking, however, more parties typically create smaller gaps ... Thus, [proportional] systems have an advantage in their likelihood to match up relatively closer to a median voter position compared to [majoritarian] systems." As Cox (1997, 225-237) notes, though, whether PR or majoritarian systems lead to greater congruence ultimately depends on the assumptions one is willing to make about elite and voter coordination.[33] The relevance of these recent theoretical arguments for our upcoming empirical analyses is in terms of whether we should use one- or two-tailed significance tests when evaluating whether PR systems produce greater congruence than majoritarian ones. It turns out that our inferences are unaffected by whether we use one- or two-tailed tests.

5 Evaluating Congruence

5.1 Many-to-One Congruence

Do countries that employ PR electoral systems produce greater ideological congruence between their citizens and the government than countries that use majoritarian ones? A majoritarian electoral system is one in which the winning candidate or party obtains either a plurality or majority of the votes, while a PR system is essentially one in which two or more winning candidates are selected in proportion to the votes that they receive (Golder 2005). Some countries employ mixed systems that combine majoritarian and proportional formulas in different electoral tiers. If these mixed systems are 'dependent' in the sense that the proportional formula in the upper tier is specifically designed to compensate for the disproportionality produced by the majoritarian formula in the lower tier, then we code these democracies as proportional. For exam-

[33] For example, when summarizing his theoretical analysis of the congruence between citizens and their government, Cox (1997, 237) concludes that "[i]f coordination is more likely to fail at the electoral stage, then [majoritarian] systems will be more erratic. If coordination is more likely to fail at the government formation stage, then [PR] systems will be more erratic."

ple, we code Germany's mixed system as proportional since it is explicitly designed to produce an overall distribution of seats among the parties that is proportional. On the other hand, if these mixed systems are 'independent', then we omit them from our analysis in order to guarantee a clean test of the effect of majoritarian and proportional democracies on citizen-representative congruence. This line of reasoning leads to the omission of Hungary (1998, 2002) and Taiwan (2001).

In Table 1, we use a variety of measures to show how the mean level of ideological congruence varies across majoritarian and proportional democracies. Two of these measures capture concepts of *absolute* congruence and two of them capture concepts of *relative* congruence. As a reminder, lower scores indicate greater ideological congruence. In direct contrast to the consensus in the literature, none of the measures indicate that proportional democracies produce greater congruence than majoritarian ones. In fact, all of the

Table 1: Mean Levels of Many-to-One Congruence by Electoral System Type

Dependent Variable	Proportional Systems	Majoritarian Systems	Significantly Different?
Absolute Congruence			
ABSOLUTE MEDIAN CITIZEN CONGRUENCE	1.46 (0.97)	1.06 (0.83)	NO
ABSOLUTE CITIZEN CONGRUENCE	2.25 (0.49)	1.89 (0.41)	YES
Relative Congruence			
RELATIVE CITIZEN CONGRUENCE	0.17 (0.13)	0.17 (0.14)	NO
Achen's RELATIVE CITIZEN CONGRUENCE	2.43 (2.61)	1.25 (1.39)	NO
Observations	31	7	

NOTES: Lower scores indicate greater congruence. Parentheses indicate standard deviations. 'Significantly Different?' means at the 0.10% significance level (two-tailed). MEDIAN CITIZEN CONGRUENCE captures the absolute distance between the median citizen and the government; ABSOLUTE CITIZEN CONGRUENCE captures the average distance between the citizens and the government; RELATIVE CITIZEN CONGRUENCE captures the average distance of a citizen from the citizens' most preferred position relative to the average distance between a citizen and the government; Achen's RELATIVE CITIZEN CONGRUENCE captures the average squared distance between each citizen and the government minus the variance in citizen preferences (see footnote 21).

measures indicate that the mean level of congruence is higher in countries that employ majoritarian electoral systems than in those that use proportional ones.

One thing worth noting is that congruence between citizens and their government is *significantly* higher in majoritarian democracies when we measure it as absolute citizen congruence. A potential explanation for this significant difference has to do with the dispersion of citizen preferences across the two types of democracy. As we noted earlier, conceptualizing congruence in terms of absolute citizen congruence puts governments in homogenous countries at an advantage in terms of their ability to produce congruence compared to governments in more heterogeneous ones. Empirically, the dispersion of citizen preferences, as measured by the standard deviation, is significantly lower in majoritarian democracies than proportional ones. This is true not only when we employ data from CSES surveys as we do here, but also when we look at data from Eurobarometer and WVS surveys. This lower dispersion of citizen preferences in majoritarian democracies may help to explain why absolute citizen congruence is significantly greater in majoritarian democracies than proportional ones. Some evidence for this explanation comes from the fact that there is no significant difference in congruence between the two democracy types once we measure congruence relative to the dispersion of citizen preferences. As these results demonstrate, how scholars conceptualize and measure many-to-one congruence matters.

One concern with this initial analysis is that we only have seven observations of a pure majoritarian electoral system. Readers may be uncomfortable with us drawing inferences from a simple difference-in-means test using a sample of this size. One way to avoid this problem is to measure all electoral systems along a continuum of disproportionality rather than in terms of a majoritarian-proportional dichotomy. Arguably, this approach would also be an improvement on the grounds that continuous measures tend to provide more information than dichotomous ones. This is particularly relevant here given the varying degrees of proportionality associated with different types of PR systems (Benoit 2000). The most common measure of electoral system disproportionality is proposed by Gallagher (1991):

$$\text{DISPROPORTIONALITY} = \sqrt{\frac{1}{2}\sum_{p=1}^{P}(v_i - s_i)^2} \tag{7}$$

where v_i and p_i are the percentage of votes and seats obtained by the i^{th} party respectively. This measure of disproportionality ranges from 0 to 100, with higher numbers indicating increased disproportionality.

In Table 2, we report the coefficients on our measure of disproportionality from a series of bivariate regressions where ideological congruence is the dependent variable.[34] We employ robust standard errors clustered by country to take account of potential heteroskedasticity and the possibility that observations from the same country may not be independent. In direct contrast to the consensus in the existing literature,

Table 2: Coefficient on Electoral System Disproportionality from a Series of Bivariate Regressions

Dependent Variable	Disproportionality	Significant?
Absolute Congruence		
ABSOLUTE MEDIAN CITIZEN CONGRUENCE	-0.02 (0.03)	NO
ABSOLUTE CITIZEN CONGRUENCE	-0.01 (0.02)	NO
Relative Congruence		
RELATIVE CITIZEN CONGRUENCE	-0.001 (0.003)	NO
Achen's RELATIVE CITIZEN CONGRUENCE	-0.05 (0.05)	NO
Observations	41	

NOTES: Parentheses indicate robust standard errors clustered by country. 'Significant?' means at the 0.10% significance level (two-tailed). MEDIAN CITIZEN CONGRUENCE captures the absolute distance between the median citizen and the government; ABSOLUTE CITIZEN CONGRUENCE captures the average distance between the citizens and the government; RELATIVE CITIZEN CONGRUENCE captures the average distance of a citizen from the citizens' most preferred position relative to the average distance between a citizen and the government; Achen's RELATIVE CITIZEN CONGRUENCE captures the average squared distance between each citizen and the government minus the variance in citizen preferences (see footnote 21).

the results clearly indicate that citizen-government congruence is not significantly greater (or different) in proportional democracies than majoritarian ones.[35] This is the case no matter what measure of congruence

[34] While all previous studies of ideological congruence have focused on the effect of electoral system disproportionality, some have recently included other variables such as the number of parties and party system polarization. However, there is considerable theoretical and empirical evidence that these other variables are, to a large extent, a direct consequence of electoral system disproportionality. As King et al. (2007) note, "variables that are even in part a consequence of the treatment variable [electoral system disproportionality] should never be controlled for when estimating a causal effect . . . [it] can severely bias a causal inference . . . this "post-treatment bias" problem is far too common in many areas of political science" (see also King and Zeng (2006, 2007)). It is for this reason, and due to our relatively small sample size, that we focus here on the bivariate relationship between ideological congruence and electoral system disproportionality.

[35] A cautious reader might argue that the insignificance of our coefficients is simply a result of our small sample size. While this may or may not be true, a small sample size does not explain why the sign on all four of the coefficients is the exact opposite to that predicted by the existing literature.

that we employ.[36]

Our results regarding the connection between many-to-one congruence and electoral institutions are clearly at odds with those in the existing literature. We should point out that this is not simply because we conceptualize and measure congruence differently. As the results in Tables 1 and 2 indicate, there is no evidence that proportional democracies produce greater congruence than majoritarian ones even when we employ the standard measure in the literature i.e. absolute median citizen congruence. One explanation for the difference between our results and those in the existing literature may have to do with the different data that we employ. An alternative explanation might simply be that we are evaluating congruence in a more recent time period than previous studies. While we see no obvious reason why the relationship between electoral institutions and ideological congruence would be different after 1996 than before, the relatively short time span of the current CSES data suggests that scholars should be somewhat cautious about rejecting the idea that proportional democracies produce greater ideological congruence on the basis of this one study.

5.2 Many-to-Many Congruence

Do countries that employ PR systems produce greater congruence between citizens and their legislators than countries that use majoritarian ones? Before answering this question, we briefly discuss two details having to do with the construction of our measure of many-to-many congruence (Eq. 6). First, recall that our measure intends to capture the area between the CDFs of the citizens and parties (legislators) on the left-right issue dimension. While citizens are placed at discrete integer points (0, 1, 2, 3, etc.) along the 0-10 left-right scale, political parties are not. This is because we use the *mean* placement of a party by the top 40% educated respondents in each country as an estimate of the actual placement of the party. In order to capture the area between the CDFs of the citizens and parties, it is, therefore, necessary to allocate party seat shares to discrete integer points on the left-right dimension. We do this by proportionally allocating seat shares between the two integer points either side of our estimated party position. As an example, consider a party with 100 legislative seats at an estimated position of 5.5 on the 0-10 scale. We would allocate 50% (50) of this party's seats to position 5 and 50% (50) to position 6. Similarly, if the same party were located at 5.3, then we would allocate 70% (70) of its seats to position 5 and 30% (30) to position 6.

[36] In addition to Gallagher's measure of disproportionality, we also used a country's average district magnitude as an alternative measure of (dis)proportionality. The results are qualitatively similar. The coefficients on three of the congruence measures are insignificant. While the coefficient on the fourth is significant, its size is so small as to make it substantively meaningless given the observed range of the district magnitude variable.

Second, there are, unfortunately, some observations (elections) for which CSES respondents do not provide the ideological position of all legislators. Typically, these legislators are either independent candidates or they belong to extremely small parties. How do we deal with these situations? First, we drop any observation for which we are missing the ideological positions of parties that together comprise more than 5% of the legislative seats. This results in the elimination of four elections (Denmark 1998, Ireland 2002, Israel 1996, Israel 2003). Of the remaining 37 observations, over half (20) are missing the ideological positions of parties comprising less than 1% of all the legislative seats. Overall, we are missing the ideological positions of parties comprising, on average, just 1.64% of all legislative seats. Second, we normalize the seat share for those parties for which we have ideological positions back to 100%.[37] In terms of our sample, the Netherlands (1998) has the greatest level of many-to-many congruence (26.55) and Spain (1996) has the lowest (158.79). Recall that many-to-many congruence is greater, the smaller the area between the citizen and party CDFs.

In Table 3, we indicate how the mean level of ideological congruence between citizens and their legislative representatives varies across democracies employing majoritarian and PR electoral rules. The results indicate that the mean level of many-to-many congruence is greater (the mean score is lower) in countries that employ PR electoral systems than in those that use majoritarian ones. However, this difference does not reach conventional levels of statistical significance.

Table 3: Mean Levels of Many-to-Many Congruence by Electoral System Type

Dependent Variable	Proportional Systems	Majoritarian Systems	Significantly Different?
CONGRUENCE (MANY-TO-MANY)	82.95 (30.67)	92.46 (27.77)	NO
Observations	27	7	

NOTES: Higher scores indicate greater congruence. Parentheses indicate standard deviations. ‘Significantly Different?’ means at the 0.10% significance level (two-tailed).

[37] Implicitly, this normalization assumes that the seats for which we are missing ideological positions are distributed along the left-right dimension in the same way as the seats for which we have ideological positions. This is the best that we can do without additional information. However, there are occasions in the CSES survey where country experts place particular parties but individual respondents do not. Rather than simply ignore this additional information and fall back on the implicit assumption just stated, we take advantage of these expert placements wherever possible. As a result, the ideological positions for six of the 212 legislative parties utilized in this particular section of our analysis are determined by country experts; the positions of the other 206 parties are determined, as before, by individual respondents.

For the same reasons as with our earlier analysis of many-to-one congruence, we now report the coefficient on Gallagher's continuous measure of electoral system disproportionality from a bivariate regression where CONGRUENCE (MANY-TO-MANY) is the dependent variable in Table 4. In contrast to the results in Table 3 where we employed a majoritarian-proportional dichotomy, the results here clearly indicate that increasing a continuous measure of electoral system disproportionality substantively reduces the level of ideological congruence between citizens and their legislators i.e. the coefficient on DISPROPORTIONALITY is positive, highly significant, and substantively meaningful.[38] Put differently, the results show that countries where the electoral system accurately translates votes into legislative seats will also be characterized by a more accurate translation of citizen preferences into legislative seats. To our knowledge, this is the first empirical analysis to explicitly demonstrate that PR systems produce legislatures that accurately reflect the ideological *preferences* of citizens and not just their *votes*.

Table 4: Coefficient on Electoral System Disproportionality from a Bivariate Regression

Dependent Variable	DISPROPORTIONALITY
CONGRUENCE (MANY-TO-MANY)	2.32*** (0.80)
Observations	37

* $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$ (two-tailed)

NOTES: Parentheses indicate robust standard errors clustered by country. Substantively similar results are obtained if we do not employ robust and/or clustered standard errors.

6 Conclusion

A growing consensus has emerged in recent years that democracies employing majoritarian electoral institutions are better at promoting things like government mandates, identifiability, clarity of responsibility, and accountability, whereas democracies employing PR institutions are superior at dispersing power, providing choice, and generating ideological congruence between citizens and their representatives (Powell 2000). In

[38] Qualitatively similar results are obtained if we employ a country's average district magnitude as our measure of (dis)proportionality. Specifically, countries with higher district magnitudes have a significantly greater level of many-to-many congruence than countries with lower district magnitudes.

effect, this consensus states that there is an explicit tradeoff when countries adopt majoritarian or proportional electoral rules. For example, while democracies that adopt majoritarian electoral systems can expect to be characterized by high levels of government identifiability and accountability, they can also expect to experience low levels of ideological congruence between citizens and their representatives.

In some ways, our article supports this notion of a tradeoff, at least with respect to ideological congruence. Specifically, we find strong evidence that countries with PR electoral rules are more likely to have legislatures that are congruent with the ideological preferences of the citizenry than countries with majoritarian ones. In other words, legislatures in proportional democracies tend to be a more accurate reflection of the diversity of ideological opinions in society than legislatures in majoritarian democracies. In other ways, though, our article directly challenges the notion of a tradeoff. This is because we find no significant difference in the level of ideological congruence between citizens and their governments in proportional and majoritarian democracies. To the extent that we ultimately care about how well the preferences of citizens are reflected in the government and the policies that it makes, then the evidence that we present suggests that democracies can adopt majoritarian electoral institutions in the hope of promoting things like government accountability *without* sacrificing citizen representation. On the other hand, to the extent that we care about having substantively representative legislatures, then our analysis indicates that a tradeoff does seem to exist.

Not only does our article have important insights for the debate about the relative merits of majoritarian and proportional democracies, it also has broader implications for the study of representation in comparative and American politics more generally. As we have demonstrated, empirical results about citizen-representative congruence are likely to depend in many situations on exactly how we conceptualize congruence. Despite this, relatively little attention has been paid to issues of conceptualization and measurement in the existing literature. At a minimum, then, our analysis suggests that it is important for scholars to better justify why they use the conceptualization of congruence that they do or to demonstrate that their results are robust to alternative conceptualizations.

How informative or appropriate a particular conceptualization of congruence will be is likely to depend on one's research question. On the whole, though, we believe that it is typically better to conceptualize congruence in a way that incorporates information about the distribution of citizen preferences rather than simply as the ideological distance between the median citizen and her representative(s). This point echoes the emphasis that Downs (1957, 130-131) places on looking at the distribution of citizen preferences for fully understanding democratic political competition. In addition, there are also good reasons why scholars should conceptualize congruence relative to the dispersion of citizen preferences if they are interested in comparing the relative performance of representatives across constituencies and/or if they have significant concerns that differential item functioning is a problem. The fact that incorporating information about the distribution of citizen preferences is likely to be important in many settings suggests that some of the insights derived from empirical tests in the extant literature on ideological congruence may be open to question.

In addition to clarifying central aspects of how scholars currently conceptualize ideological congruence, we introduced a new conceptualization and measure of congruence that captures a long tradition in democratic political theory emphasizing the ideal of having a legislature that accurately reflects the ideological preferences of the citizenry as a whole. Those existing studies that claim to address this type of ‘legislative representation’ tend to do so by focusing on the ideological distance between the median citizen and the median legislator (Powell 2000, McDonald, Mendes & Budge 2004). By essentially ignoring the variance in the preferences of both citizens and representatives, though, these studies fail to fully capture the original conceptualization of congruence proposed by democratic theorists such as Mirabeau (1834), Burke (1949 [1770]) and Mill (1991 [1859]). In effect, the current literature displays a sharp disconnect between the conceptualization and measurement of this type of ideological congruence. We believe that our proposed measure of many-to-many congruence – the area between the ideological CDFs of citizens and their legislative representatives – offers a simple, yet useful way to ameliorate this situation.

As we have already noted, our new measure of many-to-many congruence is, in many ways, the direct counterpart for ideological congruence of the vote-seat disproportionality measures that have proven so popular in comparative studies of representation. By focusing explicitly on how accurately the *preferences*, rather than just the *votes*, of citizens are translated into legislative seats, though, our measure of many-to-many congruence directly addresses the central criticism levelled at scholars who use vote-seat disproportionality scores as a measure of how well citizens are represented. Given the popularity of vote-seat disproportionality measures in the existing literature, we believe that our new measure will prove valuable to scholars examining political representation and will open up new avenues of research. For example, scholars will now be able to investigate whether substantive, and not just descriptive, representation in the legislature influences things like political participation rates, perceived levels of democratic legitimacy, trust in the political process, and satisfaction with democracy.

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