Disentangling the Role of Ideology and Partisanship in Legislative Voting: Evidence from Argentina

Eduardo Alemán, Juan Pablo Micozzi, Pablo M. Pinto, and Sebastian Saiegh

Disentangling the effects of ideology, partisanship, and constituency on roll call voting is one of the most important research topics in legislative studies. An important challenge is that legislators face many pressures when deciding how to vote. We present a novel approach to address this problem. First, we place voters, legislators, and party leaders on a common ideological space. Next, we use roll call data to identify the partisan influence of on legislators’ behavior. Finally, we use a structural equation model to account for the separate effects of partisanship, ideology, and constituency preferences on legislative voting. We rely on public opinion data and a unique survey of Argentine legislators conducted in 2007-08. Our findings indicate that the weight placed on the party line is the most important determinant of legislative voting. In addition, party influence follows a government-opposition logic, leaving little room for personal ideological position to affect legislators’ behavior.

Authors’ Affiliations: Eduardo Alemán – Department of Political Science, University of Houston. Email: ealeman2@uh.edu; Juan Pablo Micozzi – Department of Political Science, Instituto Tecnológico Autónomo de México. Email: juan.micozzi@itam.mx; Pablo M. Pinto – Department of Political Science, University of Houston. Email: ppinto@central.uh.edu; Sebastian Saiegh – Department of Political Science, University of California at San Diego. Email: ssaiegh@ucsd.edu
Introduction

For about a century, scholars have argued that legislative behavior is affected by both party and constituency influences. Understanding the relative impact of these different sources of influence sheds light on the nature of representative government as well as on the strength of political parties. Data constraints, however, have made it difficult to determining how partisan loyalty and ideological disposition affect legislative voting.

The first challenge is the inability to observe ideology. Recorded votes are the most commonly used measure of legislators’ policy preferences. Researchers have used a legislator-specific constant or fixed effect for each legislator as an indicator of personal ideology (Levitt 1996; Ramey 2015). The use of roll calls to impute policy positions, however, is problematic because legislators’ voting patterns do not necessarily reveal their sincere ideological leanings (Krehbiel 2000). Moreover, in most legislatures, the main dimension of conflict is the government-opposition divide, confounding the effect of ideology and party influence on legislators’ votes. Therefore, assessing the effect of partisanship and ideology on roll-call votes requires measurements of ideology that are constructed independently of the votes themselves. To overcome this problem scholars have recently moved to surveying legislators as a way of recording their policy preferences. ¹ The final challenge is that constituency influence is hard to measure. Some studies rely on survey and statistical techniques to estimate the ideology of survey respondents and political elites on the same scale using their positions on specific policy proposals. Combining legislators’ voting records with the public opinion data, however, presents significant practical and conceptual problems in joint scaling analysis (Lewis and Tausanovitch 2013; Jessee 2016).

¹ Zucco and Lauderdale (2011) is an example of this recent trend. They use survey responses from members of the Brazilian Chamber of Deputies as independent measures of ideological preferences to distinguish between different sources of influence on legislative behavior. An important limitation of this study is that, because the surveys are anonymous, legislators’ responses are not matched directly to their roll call votes.
Our study overcomes these limitations by using individual-level data on ideology gathered from public opinion surveys and interviews with legislators in Argentina. Voters and elected officials were asked to place themselves, political parties, and prominent politicians on a left–right ideological scale. We then use the responses to these “bridge” questions to estimate the preferences of voters and legislators in a common ideological space using the Bayesian implementation of the Aldrich-McKelvey method. More importantly, we can match legislators’ survey responses to their recorded roll-call votes. Doing so enables us to effectively account for the different sources of influence on legislators’ voting behavior.

The case of Argentina offers a unique opportunity to shed light on a question that has mostly been applied to the US Congress. First, existing studies stress the importance of party discipline in the Argentine legislature, which stands in sharp contrast to the characterizations of party behavior in the U.S. Congress. The literature also emphasizes the saliency of the government-opposition dimension, not ideology, as the main dimension of conflict in Argentine legislative politics. As Hix and Noury (2016) have shown in their cross-national analysis, the government-opposition divide appears to be the main driver of voting behavior in most institutional contexts. Thus, this quintessential party-centered political system provides a suitable setting to study the importance of constituency and legislator’s ideological leanings on roll call voting.

Our results indicate that the weight legislators place on following the party line is the most significant determinant of voting behavior in Argentina. Ideology receives only 10 percent of the weight in a legislator’s voting decision. The weight of the party position, in contrast, amounts to 90 percent. The analysis also reveals that party influence follows a government-versus-opposition logic rather than a purely ideological divide. Interestingly, we find that members of the ruling party are more likely to take ideology into account than are members of the opposition party. Finally, we find no evidence suggesting that legislators alter their voting behavior when they are in their last term in office (the so-called ideological shirking phenomenon).

Altogether, this study makes three important contributions. The first is methodological. The existing literature has struggled to disentangle the relative influence of ideology, partisanship, and constituency preferences on legislative voting. We advance an approach that uses three different techniques-perceptual data, joint scaling methods, and structural equation
models- to account for these separate effects. Our second contribution is substantive. We add to the literature on representation by shedding light on the way constituents’ preferences constituents indirectly affect legislators’ behavior by influencing the positions of those who structure floor votes, the party leadership. Finally, we enhance literature on legislative politics by highlighting the importance of party influence in legislatures where the main dimension of conflict follows a government-versus-opposition logic rather than one based on ideology.

The remainder of this article is organized as follows. In Section 1, we briefly discuss the main challenges associated with disentangling the effect of ideology, partisanship and constituency influence on legislative voting. In Section 2, we describe the Argentine case. We introduce the data used in this study in Section 3. In Section 4, we present our estimation strategy and our main empirical findings. A final section concludes.

1. Sources of Legislative Voting

Disentangling the effects of ideology, partisanship, and constituency on roll call voting is one of the most important research topics in legislative studies (Wahlke et al. 1962; Souraf 1963; Kuklinski and Elling 1977; Krehbiel 2000; Snyder and Groseclose 2000; Ansolabehere, Snyder and Stewart 2001; McCarty, Poole and Rosenthal 2001; Cox and Poole 2002; Carey 2007; Kam 2009; Hix and Noury 2016; Ramey 2015; Anderson et al. 2016). A considerable challenge within this area of research is that legislators typically face a variety of pressures when deciding how to vote. Such pressures include their personal preferences, the views of their constituents, and the positions of their parties’ leadership.²

In addition, as Hix and Noury (2016) point out, legislative votes enable politicians not only to express their preferences on legislation but also to demonstrate their support for (or opposition to) the government. This government-versus-opposition dynamic in legislative voting may arise, for instance, when governing parties can restrict the agenda (Cox and McCubbins 2005), and/or when opposition parties can pre-commit to vote against government-sponsored bills (Dewan and Spirling 2011).

Given these challenges, establishing the effect of party influence on roll call voting is not trivial. To capture individual positions from legislative voting patterns, scholars most often rely

---

² See Kam (2014) for a recent review of this literature.
on ideal point estimates. As Kam (2014) notes, one could estimate the relationship between ideological preferences and party influence on voting behavior using an equation of the following form:

\[ \text{Ideal Point}_i = \alpha + \beta \text{Preference}_i + \gamma \text{Party}_i + \epsilon_i \]  

(1)

where \( \text{Ideal Point}_i \) denotes legislator \( i \)’s ideal point estimated using recorded votes, \( \text{Preference}_i \) is a measure of \( i \)’s ideological preferences, \( \text{Party}_i \) is legislator \( i \)’s party affiliation, and \( \epsilon_i \) is the error term that captures unobserved determinants of legislative voting. To examine how legislators respond to other pressures and incentives, one can add to the proposed model other variables measuring factors that influence a legislator’s vote. For instance, including a measure of voters’ preferences is a common way to incorporate the effect of constituency pressure into the analysis (Levitt 1996; Ramey 2015; Anderson et al. 2016).

Regarding the interpretation of the results generated by equation (1), finding that \( \gamma \neq 0 \) could, in principle, be taken as evidence that party membership influences how legislators cast their votes. This interpretation, as Kam (2014) points out, rests on the implicit assumption that legislators are randomly assigned to parties. But, voting unity within legislative parties can be driven by ideological cohesiveness and self-selection into parties by like-minded politicians can produce cohesive parties. A group of legislators is considered cohesive when they vote together due to ideological affinity (Özbudum 1970, Carey 2007; Kam 2009). In addition, parties may be able to head off dissent before it becomes a problem. Specifically, leaders can use the party’s candidate selection rules to recruit individuals who share their preferences and to weed out uncongenial candidates before they get to the legislature (Siavelis and Morgenstern 2008; Kam 2009). This form of strategic behavior on the part of party leaders affects the party coefficient \( \gamma \) in the regression equation presented above, as it confounds the effect of party discipline applied after elections with a selection effect of like-minded individuals prior to elections (Kam 2014).

Party discipline can also lead legislators to vote in a unified manner. In this case, legislators would follow the party line regardless of their own ideology and/or that of their constituents. The degree to which leaders use selective incentives to elicit loyalty is often shaped by nomination procedures and electoral rules. For instance, party leaders with control over the ballot can refuse to re-nominate legislators who fail to toe the party line. Nomination rules where leaders are less
relevant and party constituents are decisive (e.g., primaries) can provide legislators greater leeway to dissent from the party (Siavelis and Morgenstern 2008). Vote pooling, where votes are counted, aggregated, and translated into legislative seats at the party level and not at the faction or individual level, also encourages disciplined behavior, as is a ballot structure that allows voters to cast only one vote for a party list (Carey and Shugart 1995; Wallack et al. 2003).

Discipline can also be exercised by party leaders who control institutional resources sought by legislators, such as appointments to desirable committees, allocation of staff, and travel budgets. Control over the legislative agenda and other internal privileges also provide leaders the ability to impose discipline. They can use their authority to affect, among other things, whether individuals’ bills or amendments move forward, the opportunities of giving congressional speeches, and the fate of certain procedural motions. Party discipline may also emerge in contexts where leaders do not directly capitalize on selective incentives. For example, if individual legislators consider the party label a valuable collective good, they may, on some instances, choose to support the leadership position over their own ideological preferences.

From an empirical standpoint, a critical challenge in distinguishing between party discipline and ideological cohesiveness consists of successfully tackling the issues of nonrandom selection as well as collinearity raised by Kam (2014). One should explicitly account for: 1) the endogenous selection into a given party; 2) the high covariation between a legislator’s ideological preferences and her partisanship in the model; and 3) how party leaders adjust their parties’ positions to accommodate their constituents’ views. An appealing estimation strategy is to rely on a system of simultaneous equations to allow a legislator’s ideology to be a function of an endogenous component (her party’s ideology), as well as to endogeneize each party’s ideology by regressing it on the (exogenous) ideology of its supporters. We describe this identification strategy in more detail below, but for now we contend that it provides a reasonable way to address the problems described in this section.

2. The Argentine Case

To date, most studies have analyzed the relative impact of legislators’ ideological preferences, constituent interests, and party discipline on legislative behavior in the United States. The US case is notable in that party discipline is considered to be weaker than in most countries in Latin America or Europe. Legislative behavior in this US setting is therefore more likely to reflect
legislators’ ideology and constituents’ preferences. Legislative politics in the Argentine Congress, on the other hand, is closer to that of most legislatures around worldwide.

Scholars of Argentine politics tend to focus on nomination procedures, electoral rules, and institutional tools in the hands of legislative party leaders as a means of accounting for the influence of partisanship on the lower chamber’s (the Chamber of Deputies) voting behavior. Elections for this body are conducted using a closed-list proportional representation system. Deputies are elected for renewable four-year terms in Argentina’s twenty-four electoral districts using the d’Hont seat-allocation method. The average district magnitude is 5.34, with a minimum of 2 (in 10 districts) and a maximum of 35 (in the province of Buenos Aires, the country’s most populous electoral district). The process by which party lists are formed determines which candidates run on each slate, their ranking, and consequently, their chances of winning a seat in the legislature. In almost every party, the leadership dominates the construction of party lists. Consequently, a legislator’s ability to adopt their own independent positions is substantially curtailed; to pursue a successful legislative career, they must maintain a good relationship with their party bosses (Jones et. al. 2002; De Luca et al. 2002).

With respect to its legislative organization, the formal and informal rules of the Chamber of Deputies decide which key positions are allocated to senior members of the plurality party, such as the Speakership and the chairmanship of the most important committees. As Calvo (2014) notes, these authority posts wield considerable power, allowing senior party members to manage the consideration and approval of bills at each legislative stage. Indeed, the body’s largest party enjoys extensive agenda-setting prerogatives, even if it numerically falls short of controlling a majority of seats. As such, the Argentine Chamber of Deputies can be described as a multi-party legislature led by a plurality cartel (Calvo 2014).

Theories of legislative politics state that if governing parties can restrict the agenda and opposition parties to credibly pre-commit to oppose government proposals, then most legislative votes will split government legislators against opposition legislators rather than between individual legislators or parties along a left-right policy dimension (Spirling and McLean 2007). These predictions are borne out by the existing research. For instance, Jones, Hwang and Micozzi (2009), using a Bayesian ideal point estimation to examine roll call votes in the Argentine Chamber of Deputies from 1989-2007, find that government-opposition dynamics characterize legislative voting in Argentina. The president’s party (which is most often the
plurality party) tends to vote and govern alone, against a multi-party opposition, which despite its ideological differences often acts as a unified bloc.

3. Individual Estimates of Ideology

Implementing the estimation strategy described above requires that we use an appropriate measure of legislators’ policy preferences. One appealing source of information comes from data gathered from interviews with national legislators. Unlike measures of behavior, survey responses are not contaminated by the effects of legislative or party institutions, including party discipline, agenda setting, logrolls, and the like (Kam 2001). A second advantage of legislators’ survey responses is that they can be used to measure the preferences of voters and politicians on a common scale. The key is to rely on surveys of voters and politicians containing a common set of questions. Then, one can use joint scaling methods and these common items as “bridges” to connect the policy preferences of voters to the preferences of the legislators who represent them (Tausanovitch and Warshaw 2013; Battista, Peress, and Richman 2013; Malhotra and Jessee 2014; Saiegh 2015; and Jesse 2016).

Our public opinion data come from a face-to-face national survey (N=2,801) conducted in March/April of 2007. The respondents were drawn from a stratified random sample of adult population residing in cities with a population over 10,000 (excluding the four scarcely populated provinces in the Patagonia region). To measure legislators’ ideological preferences, we rely on an original survey conducted by the Fundación Directorio Legislativo in September/October of 2008. A total of 200 legislators (out of 257 members of the body) participated in the survey, all of whom were drawn from samples mirroring the relative influence of their political parties in the legislatures. Survey items provide information on their age, gender, party membership, tenure in office, as well as their attitudes, opinions, beliefs, values, and policy preferences. More importantly, we are able to match legislators’ survey responses to their actual recorded votes using a blind procedure.3

3 Legislators’ identity in our dataset is anonymized by a unique numeric identifier to ensure that the confidentiality of information associated is preserved. The data administrator at Directorio Legislativo combined the roll call votes data with the survey containing legislators’ identifying
In both surveys, respondents were asked to place themselves, political parties, and prominent politicians on a left–right ideological scale. Specifically, the survey item asked: “When we talk about politics, the expressions left and right are usually used. Where would you place < yourself > on a scale where 1 is left and 10 is right?” Items containing political stimuli (e.g. main political parties or prominent politicians) asked respondents to place the on the ideological spectrum on the same scale. Note that voters were not asked to place elites as stimuli. Instead, both sets of respondents located themselves and a common set of relevant political actors (parties, presidential candidates) on the ideological scale. Therefore, one can merge these two surveys into a common data set by treating politicians as if they were voters to place them in the same space. Four of the twelve stimuli were rated by both sets of respondents. Therefore, we used these “bridge” questions to estimate the preferences of voters and legislators in a common ideological space.4

By using perceptual-based estimates to obtain comparable measures of ideology rather than combining legislators’ voting records with the public opinion data, we avoid some well-known problems associated with joint scaling analysis (Lewis and Tausanovitch 2013; Jessee 2016). An important concern regarding our data, however, is the well-known problem of response incomparability (i.e., respondents may interpret identical questions in different ways). To address this issue, we rely on the Bayesian implementation of the Aldrich–McKelvey method used in Hare et al. (2015) to place legislators and voters on the same scale. The A–M method allows us to recover the ideological location of both respondents and stimuli. In the case of the former, each respondent’s rating can be transformed into an ideology score by applying her perceptual distortion parameters to that score. In addition, we can calculate the Pearson correlation between our recovered stimuli configuration and each respondent’s placements to obtain each respondent’s information level (Palfrey and Poole 1987).

---

4 We exclude from the analysis respondents that rate less than three stimuli. Detailed information regarding all the stimuli (including the ones that provide the bridging), along with their response rates can be found in the Supplementary Online Appendix.
We employ the Bayesian implementation because it adheres more closely than the frequentist approach to the original intuition in Aldrich and McKelvey (1977). As Armstrong et al. (2014b) note, the A-M model assumes that the stimuli occupy nearly fixed positions and the variation lies in respondents’ perceptions of these locations. Bayesian scaling allows the measurement error to enter where the model suggests it should: in the respondents’ distortion parameters. More importantly, like Poole’s (1998) *blackbox* technique, the Bayesian approach allows for the inclusion of individuals with missing responses. This property is necessary to bridge across responses from the two disjoint groups of respondents (where missing data is necessarily present).  

Figure 1 presents kernel density estimates of both Argentine legislators’ and voters’ locations (arranged ideologically from left to right) using the Bayesian A–M scaling procedure. The distribution of legislators’ recovered ideological positions is represented by the solid black line. The gray dashed line indicates the distribution of voters’ estimated ideological placements. The figure also shows the ideological location of former Argentine president Cristina Fernandez de Kirchner, as well as that of current president Mauricio Macri. The estimates suggest that the views of voters and politicians are largely congruent.

---

5 The R code, as well as the BUGS and Just Another Gibbs Sampler (JAGS) scripts necessary to conduct the analysis, were obtained from http://www.voteview.com/BAM.asp. See the Supplementary Online Appendix for more details regarding the estimation procedure. For a discussion of the methodology, see Armstrong et al. (2014b) and Hare et al. (2015).

6 MCMC estimation of the model was conducted using JAGS and the R package rjags (Plummer 2003, 2013). Identification was obtained by constraining the Frente para la Victoria to lie between 1.1 and 0.9 and PRO to lie between 0.9 and 1.1. We discarded the first 10,000 iterations as a burn-in period, and we summarized the results of 5000 iterations. The chains show strong evidence of convergence according to the Gelman–Rubin diagnostic and the unimodality of posterior distributions.

7 We exclude from the graph respondents with low information levels, namely those for whom the Pearson correlation between their placements and the recovered configuration of stimuli is negative.
An additional way to check the validity of the estimates is to examine the relationship between partisanship and ideology. The survey includes the following question: “Which candidate did you vote for in the last presidential elections?” With a response rate of 81%, the vote choice question alleviates concerns regarding non-random selection. We examine the ideological location of the average voter in each of the seven major parties with parliamentary representation in Argentina in the left panel of Figure 2. The respondents are arranged ideologically from left to right. Dots are point estimates of the ideological location of each party’s representative voter, and the spikes depict 95% confidence intervals. The dotted vertical line indicates the location of the typical voter in the sample. The results hold a high degree of face validity: the ideological space closely resembles existing classifications of Argentine political parties.
An analysis of Argentine electoral politics would be incomplete, however, without considering the emotional dimension of Peronism. As the left panel of Figure 2 shows, there is no ideological distinction between the voters who support the governing party, Nestor Kirchner’s Frente para la Victoria, and those supporting some of the country’s main opposition parties (such as ARI, UCR). Instead, the divisions between these voters are likely to reflect the affective evaluations of Nestor Kirchner (president between 2003 and 2007) and his wife, Cristina Fernandez de Kirchner (president between 2007 and 2015). The right panel of Figure 2 supports this view. The dots represent point estimates of Nestor Kirchner’s evaluation by each party’s representative voter, and the spikes depict 95% confidence intervals. The dotted vertical line indicates the response of the typical voter in the sample. The survey asked respondents to rate him using a 10-point scale (where 1 is awful and 10 is excellent). A total of 2669 respondents (95% of the sample) answered this question. The results indicate a clear ordering of the parties that is not a function of ideology. Instead, voters distinguish themselves by their negative or positive evaluations of Nestor Kirchner.

With regards to the legislators, we can examine the validity of our estimates in a similar fashion. In this case, their partisanship is gauged in a straightforward manner, as we take their partisan affiliations in the Chamber of Deputies as an indicator of their allegiances. The left
panel of Figure 3 presents the ideological location of the typical legislator in the main parties represented in the Argentine Chamber of Deputies (arranged ideologically from left to right). Dots are point estimates of the ideological location of each party’s representative legislator, and the spikes depict 95% confidence intervals. The dotted vertical line is centered at zero solely for illustrative purposes. The parties’ recovered ideological configurations mirrors those of voters’. It also squares perfectly with the way in which these parties are usually arranged by scholars of Argentine politics.

A reasonable concern is that the recovered estimates do not necessarily reflect information about left–right ideology, but rather the schism between Peronism and anti-Peronism. To address this issue, we constructed an alternative measure of legislators’ ideology based on their responses to a set of policy questions. There are 21 items in the survey, most of which consist of survey items where responses are on a 5-point Likert scale. We collapsed responses into a 3-point Likert scale and estimated an ordinal IRT model with three ordered response categories using the EM algorithm developed by Imai, Lo and Olmsted (2016). The correlation between the measures of ideology based on left–right placements and the ones generated using the policy questions is 0.65. As such, this strong correlation indicates that our recovered estimates do not reflect the respondents’ views regarding Peronism, but rather, they constitute a meaningful measure of left–right political ideology.

To capture the emotional dimension of Peronism, we now move on to examine how parties compare with their roll call votes. In this case, we examine legislators’ actions rather than their responses to survey questions. We consider all the recorded votes that took place in the Argentine Chamber of Deputies during the years 2008 and 2009 (totaling 251 roll call votes). The roll call data were obtained from the Década Votada website. To estimate the legislators’

---

8 Estimation of the model was conducted using the ordIRT algorithm in the R package emIRT (Imai, Lo, and Olmsted 2016).

9 Unfortunately, the policy questions were only included in the survey of legislators and not in the public opinion one. Therefore, we cannot use them to generate common-scale measures between legislators and voters.

10 For more details go to: http://www.decadavotada.com.ar/index-d.html.
ideal points, we use the method based on Markov chain Monte Carlo (MCMC) simulation within a Bayesian framework proposed by Clinton, Jackman and Rivers (2004).\textsuperscript{11}

**Figure 3**

The right panel of Figure 3 displays the recovered ideal point of the average legislator in the main parties represented in the Argentine Chamber of Deputies. Dots are point estimates, and the spikes depict 95\% confidence intervals.\textsuperscript{12} The dotted vertical line is centered at zero solely for illustrative purposes. The parties are arranged to illustrate the government-opposition schism that characterizes legislative voting in Argentina. From one extreme to the other, we can identify: (1) the government party and its allies (Frente para la Victoria, Frente Cívico por Santiago, De la

\textsuperscript{11} Estimation was conducted using the R package ‘pscl’ (Jackman 2015). We discarded the first 10,000 iterations as a burn-in period, and we summarized the results of 2500 iterations. The chains show strong evidence of convergence according to the Gelman–Rubin diagnostic and the unimodality of posterior distributions. See the Supplementary Online Appendix for more details.

\textsuperscript{12} The point estimates represent an average of the means of the MCMC samples for the ideal point of each legislator in each of the parties. The confidence intervals are constructed using these “means of means”. For comparability with the left panel of Figure 3, to calculate the party averages, we restricted our sample to those legislators who are included in the survey.
Concertación, and Encuentro Social y Popular); (2) a group of “swing” parties, comprised by the Peronist parties Union Celeste y Blanco and the Frente Justicia y Libertad; and (3) a bloc of opposition parties conformed by the Socialist Party, Solidaridad e Igualdad (SI-ARI), the UCR, PRO, and the Coalición Cívica-ARI. This arrangement, based on voting patterns, differs significantly from the partisan configuration presented in the left panel of Figure 3. The Coalición Cívica is a case in point. Its ideological location is closer to the Frente para la Victoria than to the PRO; yet, when it comes to casting votes in the legislature, its representative member tends to vote with the latter rather than the former.

Figures 2 and 3 also reveal another important insight; they confirm that voters and legislators possess congruent views (as shown in Figure 1). The public opinion data are constrained by the options presented to voters in the 2003 presidential election; therefore, some of the parties included in Figure 3 are absent. Yet, comparing the locations of the overlapping parties indicates that a significant degree of electoral accountability exists. The fact that legislator’s positions are strongly influenced by their constituents’ views intensifies concern over the likelihood and magnitude of bias resulting from estimating a naïve, single-stage model, such as equation (1) discussed above.

4. Empirical Analysis

We now address the main question posed in this article: what is the relative weight that legislators place on party influence versus ideology in roll call voting? Following the discussion presented in Section 1, we estimate the following structural equation model (SEM):

\[
\text{Ideal Point}_i^j = \alpha_1 + \beta_1 \text{Preference}_i^j + \gamma_1 \text{Whip}_i^j + \epsilon_i^j \quad (2.1)
\]

\[
\text{Preference}_i^j = \alpha_2 + \beta_2 \text{Ideology}_i^j + \epsilon_i^j \quad (2.2)
\]

\[
\text{Whip}_i^j = \alpha_3 + \beta_3 \text{Valence Voter}_i^j + \epsilon_i^j \quad (2.3)
\]

\[
\text{Ideology}_i^j = \alpha_4 + \beta_4 \text{Position Voter}_i^j + \epsilon_i^j \quad (2.4)
\]

The first equation (2.1) is essentially the model proposed by Kam (2014) discussed above. The dependent variable \(\text{Ideal Point}_i^j\), is the ideal point of legislator \(i\) from party \(j\) estimated using the Bayesian Markov Chain Monte Carlo (MCMC) simulation procedure proposed by Clinton,
Jackman and Rivers (2004). In the Argentine context, it basically measures the legislator’s location in the government versus opposition continuum. The variable $Preference_i^j$ is the legislator’s personal ideological position on the left-right scale obtained using the Bayesian A–M scaling procedure. To assess the partisan influence on each legislator’s voting behavior, we use the variable $Whip_i^j$, which is the estimated ideal point of the leader of party $j$. In equation (2.2) we allow the ideology of legislator $i$ to be a function of an endogenous component: the ideology of the median member of her party ($Ideology_i^j$). In equation 2.3, we endogenize the ideal point of party $j$’s leader by regressing it on Nestor Kirchner’s evaluations provided by the median supporter of party $j$ ($Valence Voter_i^j$). Finally, in equation (2.4) we regress the ideology of the median party member $j$ ($Ideology_i^j$) on the ideological position of the party’s median voter obtained using the Bayesian A–M scaling procedure ($Position Voter_i^j$). This system of four equations therefore contains four “endogenous” variables ($Ideal Point_i^j, Preference_i^j, Whip_i^j,$ and $Ideology_i^j$) and two “exogenous” variables ($Valence Voter_i^j$ and $Position Voter_i^j$).

Following Levitt (1996), in equation (2.1) we constrain the coefficients $\beta_1$ and $\gamma_1$ to sum to 1. We can therefore interpret these coefficients as “weights” that legislators place on their decisions. In equation (2.2), the coefficient $\beta_2$ can be interpreted as an indicator of parties’ ideological cohesiveness. If the coefficient is zero, then it means that a legislator’s personal ideology is unrelated to the views of her party’s typical member. In contrast, a positive and statistically significant coefficient can be taken as evidence of the party’s ideological cohesiveness. The last two equations should inform us about legislators’ electoral accountability. The coefficient $\beta_3$ in equation (2.3) captures the degree to which parties accommodate their behavior to voters’ sentiments regarding former president Nestor Kirchner. The final equation (2.4) is a straightforward implementation of the “Downsian” hypothesis of party competition. In this case, the coefficient $\beta_4$ measures parties’ ideological responsiveness to the views of their constituents. In all equations, we cluster the standard errors by party to help account for the nested structure of the data that might cause legislators from the same party to experience related shocks.

---

13 For ease of interpretation, we converted this variable’s values to standard units.
The analysis excludes respondents who fail to locate at least three stimuli on the scale, because they do not provide enough responses to reliably place them in the common scale. This restriction eliminates 26 legislators. We also exclude respondents with low levels of political information (i.e., those for whom a negative correlation between their placements and the recovered stimuli configuration exists). If legislators are confused about the location of major parties on a left-right scale, their estimated ideology is imprecise. The imprecision of those estimates, in turn, can have an adverse impact on the standard errors of the weights in legislators’ estimated utility function (equation 2.1). Excluding these legislators lowers the available observations from 174 to 135. In addition, we exclude legislators who serve as party leaders. Our measure of party influence on legislators’ voting behavior is the estimated ideal point of each party’s leader. Including these legislators in the analysis would not only be redundant but it would also lead us to artificially “inflate” our models’ fit. Finally, because legislators from parties with small delegations are more likely to serve as party leaders, and therefore less likely to be representative of a sizable percentage of voters, we exclude legislators from parties with three or fewer members from the sample. These last two exclusions eliminate an additional 18 legislators, leaving us with a sample of 117 observations.

4.1. Results

Table 1 depicts the results of the SEM analysis. Our main finding is presented in Column (1). Both covariates in equation (2.1) are measured in the same units, therefore, the estimated coefficients can be interpreted as “weights” in a legislator’s utility function (Levitt 1996). The results indicate that the measure of a legislator’s ideology (Preference9 in equation 2.1) receives only 10 percent of the weight in a legislator’s voting decision. The weight of the party position (Whip9 in equation 2.1), in contrast, amounts to 90 percent. In column (2) we find strong support for our identification strategy.

14 Our approach would not provide meaningful results if the variables Preference9 and Whip9 were highly correlated. But, this is not the case (the correlation is .236).
### Table 1

#### Structural Equation Model (SEM)

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Ideal Point</th>
<th>Preference</th>
<th>Whip</th>
<th>Ideology</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
</tr>
<tr>
<td><strong>Endogenous Covariates</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preference</td>
<td>0.10***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.03)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whip</td>
<td>0.89***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.03)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ideology</td>
<td></td>
<td>0.96***</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.08)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Exogenous Covariates</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Valence Voter</td>
<td></td>
<td></td>
<td>-0.55***</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.04)</td>
<td></td>
</tr>
<tr>
<td>Position Voter</td>
<td></td>
<td></td>
<td>1.63***</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.07)</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>0.18***</td>
<td>0.06</td>
<td>-0.59***</td>
<td>0.19***</td>
</tr>
<tr>
<td></td>
<td>(0.03)</td>
<td>(0.08)</td>
<td>(0.04)</td>
<td>(0.05)</td>
</tr>
<tr>
<td>Observations</td>
<td>117</td>
<td>117</td>
<td>117</td>
<td>117</td>
</tr>
<tr>
<td>Correlation between DV and Yhat</td>
<td>0.89***</td>
<td>0.73</td>
<td>0.74</td>
<td>0.88</td>
</tr>
<tr>
<td>Standardized root mean squared residual</td>
<td>0.04</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LR Test (Model v. Saturated)</td>
<td>41.78***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LR Test (Baseline v. Saturated)</td>
<td>536.42***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bayesian Information Criterion</td>
<td>984.53</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anderson-Rubin Wald test</td>
<td>86.87***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Underidentification test (Anderson)</td>
<td>91.87***</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1. This table depicts a four equation structural equation model, in which legislators' ideal points, legislators' ideological preferences, parties' ideological cohesiveness and parties' positions in the legislative voting are endogenized using voters' evaluations of N. Kirchner and voters' ideology.

The results indicate that a legislator’s own ideology is positively correlated to the endogenized ideology of the median member of her party. Indeed, the coefficient $\beta_2$ is very close to one and its standard error is very small, indicating that parties are composed of ideologically like-minded legislators. Test diagnostics reveal that the equation is strongly identified and that there is little risk of weak identification bias. Column (3) lends further validity to our estimation strategy. A one unit increase in the median voter’s evaluation of Nestor Kirchner (the variable
Valence Voter$^I$ in equation 2.3) leads to a 0.55 point decrease in a party leader’s ideal point. The values for this variable are standardized and negative ideal points are associated with voting records in support of the government. So, for example, in the case of the Socialist Party, its typical legislator tends to cast votes against the government (the ideal point of the party’s whip is located at 0.40). The median voter of the Socialist Party gives Nestor Kirchners a 6 in the 10-point scale. Therefore, a one-standard deviation increase in this evaluation (going from 6 to 7.2) would be associated with an expected change in the party whip’s position from 0.40 to -0.15. This shift would result in the party voting with the government rather than with the opposition.

It is also important to consider that voters’ evaluations of Nestor Kirchner fail to translate into a one-to-one effect on legislators’ voting behavior. Notice that the coefficient $\beta_3$ is less than one, which means that legislators are less polarized than voters are regarding the affective evaluations of Nestor Kirchner. A one-standard deviation change in Valence Voter$^I$ leads to less than a one-standard deviation change in the position of party $j$’s whip. This effect is also mediated by the influence of partisanship on legislators’ voting behavior. The estimated weight of the party line is 0.9; therefore, the indirect effect of voters’ evaluations of Nestor Kirchner on legislators’ estimated ideal points is -0.50 (z-score: -10.86).

Finally, the results in Column (4) lend strong support to the “Downsian” conjecture of party competition. The coefficient $\beta_4$, which measures parties’ ideological responsiveness to the views of their constituents (Position Voter$^I$) is positive and statistically significant. The effect of voters’ ideological views on legislators’ own ideological position is mediated by the ideological location of each party’s median legislator (Ideology$^I$). The results indicate that the parties’ ideological location enables constituency influence to pass through almost unaltered to legislators’ ideological location. As such, the indirect effect of a median voter ideology on the estimated ideology of her party’s representative is 1.57 (z-score: 10.17). Recall that the ideology of legislators and voters is measured on the same scale. Therefore, in contrast to what happens with evaluations of Nestor Kirchner, legislators are ideologically more extreme than voters. In principle, this discrepancy indicates that legislators may privilege their own ideology over that of their constituents. When it comes to legislators’ behavior, however, our results indicate that ideology receives only 10 percent of the weight in their voting decisions. Consequently, the indirect effect of voters’ ideology on legislators’ estimated ideal points is merely 0.15 (z-score: 2.82). Going back to the example of the Socialist Party, it would take a full one-unit change in
the ideological location of the party’s median voter (from -1.26 to .26, which is roughly the position of PRO’s median voter) to offset the change induced by a one-standard deviation increase in his evaluation of Nestor Kirchner on her representatives’ voting behavior.

Moving back to the results presented in Column (1), where we disentangle the effects of ideology and partisanship on roll call voting, our results indicate that Argentine legislators do take the ideological views of their constituents into account. But, the effect of legislators’ own ideology on roll call voting is quite marginal (approximately 5%). In contrast, the party line, represented by the position of the party whip, exerts a substantial impact on legislative behavior. Indeed, this influence goes beyond the mere representation of their voters’ affective evaluations of former president Nestor Kirchner (by a factor of 2). Overall, the party line accounts for 90% of the variance that is not explained by constituency influence.

One potential concern regarding our main result is that the specification of model 1 is too sparse. We estimate a series of additional models to address this issue. The literature on the relationship between Argentine federalism and legislative politics states that governors exercise considerable influence over national legislators (Jones et al. 2002). Therefore, in a richer specification we include provincial dummies to capture this source of influence on legislative voting. The weight that legislators place on ideology is similar than the one in the baseline model. We also consider an alternative measure of parties’ ideological cohesiveness. Instead of using the ideology of the median member of a legislator’s party, we take advantage that most parties/party leaders were included as stimuli in the surveys and use their estimated location to proxy their ability to select like-minded politicians. To capture the location of the parties in the government coalition, we use “The Government” as the stimulus (located at -0.87). The Coalicion Civica-ARI and UCR are listed as stimuli, so we use their locations (at -0.16 and .01, respectively). For the deputies of PRO and Recrear, we use the location of Mauricio Macri (0.51); for those of the Socialist Party, we use the location of Hermes Binner (-0.37); and for the SI deputies, the location of Elisa Carrio (-0.27). In this model, the results do not qualitatively change either.

The SI deputies broke with Elisa Carrio’s leadership; but this event took place after the 2007 presidential elections. Therefore, her location as a 2007 presidential candidate is still a good proxy for SI’s leadership position.
To further account for the plurality party’s ability to control the agenda, we disaggregate the results by looking at the parties in the governing coalition versus those in the opposition. Despite their greater ideological differences, there seems to be a higher degree of party influence in the latter group compared to the former one. Nonetheless, this difference fails to reach statistical significance. Finally, we carry out additional robustness checks to assess the sensitivity of the results to different estimation techniques. One includes sample observations that contain missing values of any of the observed variables used in the model (ML with Missing Values); in the other one, we estimate our system of structural equations via three-stage least squares (3SLS). Overall, the results indicate that the “weights” for the party line are quite robust at 80%-100%.

4.2. Critical Votes: An Illustration

The results presented in the previous section identify the separate effects of ideology and partisanship on legislators’ voting behavior. Our dependent variable is a summary measure of legislative behavior. Not all recorded votes, however, place the same burden on a legislator’s choice between ideological considerations and towing the party line. We can thus further examine how partisanship and ideology affect legislative voting by focusing on individual roll call votes (Kam 2014).

The vote taken on Saturday July 5, 2008 illustrates how these different sources of influence affect legislators’ behavior. On that day, Argentina’s Chamber of Deputies narrowly approved a government tax program for agricultural exports. The bill’s passage was a key event in a bitter confrontation between agricultural producers and President Cristina Fernandez de Kirchner. The conflict originated when the Ministry of Finance issued a decree raising taxes on agricultural export, and linking the tax rates to changes in international prices. The export tax rate hike generated an immediate response by rural producers, who implemented a series of lockouts, protests, and road blockades.

To crush the revolt, President Kirchner, whose party controlled both chambers of Congress, introduced a bill seeking legislative ratification for the tax hike. Despite the

---

16 Murillo and Pinto (2015) analyze how distributional concerns at the local level affect legislators’ support for trade openness and legislative behavior on this particular vote.
comfortable majorities enjoyed by the ruling party in both houses of Congress, the bill barely passed the Chamber of Deputies. Indeed, Felipe Sola, a former Peronist governor of Buenos Aires and 17 other members of the ruling party voted against the bill.

To examine the separate effects of ideology and partisanship on legislators’ behavior in this particular roll call vote, we estimate a structural equation model very similar to the one presented above. Instead of using each legislator’s estimated ideal point, we use their actual votes on the bill under consideration. In addition, we also code $Whip^j$ (our indicator of the partisan influence on legislators’ voting behavior) as a dichotomous variable depending on the position taken by the leader of each party $j$. Finally, to account for the effect of regional interests, we include provincial fixed effects. We estimate the equivalent to equation (2.1) as both a linear probability model (to preserve the linearity needed to interpret the constrained coefficients as “weights”) as well as a probit model. The results are substantively similar.

Our findings indicate that, for all the members of the Argentine Chamber of Deputies included in our sample, the party weight amounts to 91%. This figure is similar the overall party weight discussed above. We obtain a very different result, however, when we restrict our analysis to the members of the ruling coalition (Frente para la Victoria and its allies). The results indicate that legislators in the government coalition exercised more personal discretion than those of the opposition in deciding how to cast their votes in this instance. The weight they placed on ideology doubles: 18 percent versus 9 percent. This difference is significant at the 0.01 level.

4.3. Party Switchers

Our empirical results indicate that following the party line is a very important determinant of legislators’ voting behavior in Argentina. An important implication of this finding is that when legislators change their political affiliation, a nontrivial change in their roll call voting behavior should also be observed. The literature on party switching in the U.S. Congress has documented such changes using a variety of approaches (Nokken 2000; McCarty, Poole and Rosenthal 2001; Murillo and Pinto 2015) find that the pattern of defection among government legislators can be partly explained by the level of soy production in legislators’ local constituencies.

---

17 The bill was ultimately defeated in the Senate by one vote. Murillo and Pinto (2015) find that the pattern of defection among government legislators can be partly explained by the level of soy production in legislators’ local constituencies.
Nokken and Poole 2004). These studies, however, are hampered by lack of ideology measures calculated independently from legislators’ observed behavior. As such, the data presented in this paper is much better suited to test the effect of a change in party affiliation on legislative voting.

Legislators are considered to be party switchers if they belonged to at least two different legislative parties during the 2008-2009 legislative session. According to this definition, 18 percent of the deputies changed their party affiliation (47 out of 257). The percentage of switchers is slightly higher among the deputies included in our sample (29 out of 117 legislators, or 25 percent). We thus have a good number of observations to examine the effect of party switching on legislative voting. We calculate the residuals from the model in Table 1, Column (1). The model predicts roll call voting very well, mostly out of partisan influence. In the analysis presented in Table 1, we coded all deputies as having a unique partisan affiliation (even if they switched parties at some point during the 2008-2009 period). If ideology remains stable over time, the residuals can be interpreted as the part of voting behavior that cannot be explained through partisan whipping. A straightforward implication is that legislators who switch from one political party to another should have larger residuals than those who remain in the same party.

The left panel of Figure 4 shows the difference in the size of the residuals for legislators who did not change their partisan affiliation versus those who switched parties. The mean of the residuals for the “loyalists” is very close to zero (-.07), whereas the one for the party switchers is 0.24. A simple two-sample t-test indicates that one can safely reject the null hypothesis that no difference between the two means exist at the 95 percent confidence level. The result is obviously driven by our decision to code a legislator’s partisanship (and her party “whip”) based on the party list on which he/she was elected. But, substantively, it provides a quantitative measure of the effect of party “whipping” on legislators’ decisions. In particular, it shows how much legislators in Argentina adjust their behavior along the government versus opposition dimension as a function of their partisan loyalties.

Such evidence is made more apparent in the right panel of Figure 4. It displays the mean of the residuals for legislators who deserted the government’s party compared to the rest of the legislators in the sample. As mentioned above, many members of the Frente para la Victoria voted against Cristina Fernandez de Kirchner’s tax program on July 5, 2008. The party leadership reacted bitterly against these legislators, and most of them ended up leaving the legislative bloc. There are 16 legislators who were elected as members of the Frente para la
Victoria and subsequently left the party in our sample. As the graph shows, the mean of the residuals for the legislators in this group is quite large (0.62). In contrast, the one for the rest of the legislators in our sample (including 13 party switchers from other parties) is virtually zero. This difference is statistically significant at the 99 percent confidence level. Remember that, in our estimation, negative ideal points are associated with voting records in support of the government. Therefore, the large and positive residuals suggest that these legislators changed their behavior by voting more often with the opposition.

**Figure 4**

![Prediction Errors: All Switchers](image1)

![Prediction Errors: FPV Switchers](image2)

---

### 4.4. Ideological Shirking

Lastly, we can test whether or not legislators alter their voting behavior when they are in their last term (the so-called ideological *shirking* phenomenon). Countless studies have examined whether the reelection constraint alters legislative voting behavior (Kalt and Zupan 1990; Poole and Romer 1993; Rothenberg and Sanders 2000; Stratmann 2000). As with party switching, much of this research relies on an imperfect measure of legislators’ ideology. Given our unique dataset, we can simply extend the analysis presented above to examine the extent to which legislators push their ideological preferences in their voting decisions when they are serving their last term in office.
We exploit the staggered terms in the Argentine Chamber of Deputies to develop our exit codes. One-half of the body is renewed every two years, with each electoral district renewing one-half of its representatives. In our sample, there are 56 legislators whose term ended in 2009 and 61 who remained in office until 2011. The former group includes 24 legislators who ran for reelection in 2009. Therefore, a total of 32 legislators found themselves in their last period in office.\textsuperscript{18}

Using these coding rules, we divide the sample into two groups and estimate a SEM model similar to the one presented above. Our results indicate that, for members of the Argentine Chamber of Deputies who are in their last term, the ideological weight is 15\% compared to 8\% for continuing legislators. This difference, however, is not statistically significant. Therefore, we find no evidence of “ideological shirking”, interpreted as indulging one’s own preferences rather than towing the party line. Our results are consistent with Poole and Rosenthal (1993) and Lott and Bronars (1993), who find little evidence for shirking in the U.S. House. They also support the characterization of Argentine legislators’ political careers advanced by Jones et al. (2002). As they note, following their tenure in the legislature, a high percentage of Argentine legislators continues in appointive, or party posts. Therefore, this strong link between legislators’ careers and their relationship with their party seems to be an important deterrent to ideological shirking.

**Conclusion**

Identifying the separate effects of ideology, partisanship, and constituency influence on legislators’ voting behavior roll call voting has proven to be an elusive task for students of legislative politics. In this paper, we present a strategy to incorporate individual preferences, party discipline, and constituency positions into a model of roll call vote behavior. We use public opinion data, a survey of lawmakers, and ideal point estimates to disentangle the effects of partisan loyalty and legislators’ preferences on voting behavior. Our findings indicate that Argentine parties exert an overwhelming influence over members of Congress; and that this influence is structured by a government-versus-opposition divide that is common to most

\textsuperscript{18} We decided to exclude from this group those legislators who sought to be reelected but failed. We obtain similar results if we focus only those who were reelected.
legislatures around the world. Argentine legislators only occasionally take ideology into consideration when they cast their legislative votes.

The rare instances in which government versus opposition voting breaks down should produce a second dimension. A two-dimensional estimation of legislator’s ideal points reveals that a weak second dimension accounts for some alternative voting arrangements. Standard ideal point estimates do not distinguish between ideological motivations and other voting inducements. But, we can use our measure of legislators’ ideology based on the survey responses to interpret the schism captured by the second dimension. Our findings indicate that the correlation between legislators’ ideology and the second-dimension ideal points is 0.4. As such, it seems reasonable to consider this second dimension a left-right ideological divide. It should be noted, however, that the second dimension only increases correct classification by 1 percent. In other words, ideology accounts for only 1/10 of the unexplained classification (or 10 percent). This is precisely how much weight, according to our calculation, ideological preferences receive in legislator’s voting decisions.

Substantively, the results presented in this paper square well with existing analyses of Argentine legislative politics (Jones, Hwang and Micozzi 2009; Aleman et al. 2009; Calvo 2014). Our findings indicate that government-opposition dynamics characterize legislative voting. They also indicate that, despite their ideological differences, legislators in the opposition tend to vote together against the government as a unified bloc. More broadly, our findings lend support to Hix and Noury’s (2016) view that government-opposition interests, rather than parties’ policy positions, are the main drivers of voting behavior in most democracies. Therefore, we believe that the approach championed in this article not only improves our understanding of legislative politics in Argentina, but also provides a blueprint to examine legislators’ voting behavior around the world.
References


Armstrong, Dave, Ryan Bakker, Royce Carroll, Christopher Hare, Keith T. Poole, and Howard Rosenthal. 2014. *Analyzing spatial models of choice and judgment with R*. Boca Raton, FL: CRC Press.


Jessee, Stephen. 2016. “(How) can we estimate the ideology of citizens and political elites on the same scale?,” *American Journal of Political Science*, 60: 1108-1124.


Appendix

1. “Bridge” Items

<table>
<thead>
<tr>
<th>Stimulus</th>
<th>Public Opinion Survey</th>
<th>Legislators Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Respondents (N)</td>
<td>Response Rate (%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Respondents (N)</td>
</tr>
<tr>
<td>Frente para la Victoria (FPV)</td>
<td>1779</td>
<td>64</td>
</tr>
<tr>
<td>PRO</td>
<td>1272</td>
<td>45</td>
</tr>
<tr>
<td>Union Civica Radical (UCR)</td>
<td>1655</td>
<td>59</td>
</tr>
<tr>
<td>Coalicion Civica (CC)</td>
<td>1360</td>
<td>49</td>
</tr>
<tr>
<td>Government</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Nestor Kirchner</td>
<td>1999</td>
<td>71</td>
</tr>
<tr>
<td>Roberto Lavagna</td>
<td>1569</td>
<td>56</td>
</tr>
<tr>
<td>Elisa Carrio</td>
<td>1647</td>
<td>59</td>
</tr>
<tr>
<td>Ricardo Lopez Murphy</td>
<td>1559</td>
<td>56</td>
</tr>
<tr>
<td>Mauricio Macri</td>
<td>1662</td>
<td>59</td>
</tr>
<tr>
<td>Hermes Binner</td>
<td>585</td>
<td>21</td>
</tr>
<tr>
<td>Cristina Fernandez de Kirchner</td>
<td>1821</td>
<td>65</td>
</tr>
</tbody>
</table>

2. Joint Scaling: Estimation Procedure

The basic Aldrich-McKelvey (A-M) model assumes that given a set of respondents $I = \{1, \ldots, n\}$ and a set of stimuli $J = \{1, \ldots, m\}$, the perceived location of stimulus $j$ by individual $i$, denoted by $z_{ij}$, is given by

$$z_{ij} = \alpha_i + \beta_i + Z_j + e_{ij},$$

where $Z_j$, is the true location of $j$; $\alpha$ is an intercept capturing a respondent’s systematic bias in reported placements; $\beta$ captures any expansions/contractions of the reported placements on the scale; and $e_{ij}$ is a random variable with zero expectation, positive variance that is independent of $i$ and $j$, and zero covariance across the $i$s and $j$s (Aldrich and McKelvey 1977; Hare et al. 2014). Using the $z_{ij}$ matrix of reported positions, the A–M scaling procedure recovers the location of the stimuli using singular value decomposition (SVD). Next, it estimates the individual
transformation parameters $\alpha$ and $\beta$. Finally, these distortion parameters are used to calculate the respondents’ ideological location.

To jointly scale parties and politicians from different countries in a common ideological space, we rely on the Bayesian implementation of the Aldrich-McKelvey method developed by Hare et al. (2015). The Bayesian A-M model assumes that the perceived location of stimulus $j$ by individual $i$ follows a distribution:

$$z_{ij} \sim N(\mu_{ij}, \tau_{ij}).$$

$$\mu_{ij} = \alpha_i + \beta_i Z_j.$$  

$$\tau_{ij} = \tau_i \tau_j.$$  

Following Hare et al. (2015), we employ non-informative uniform priors for the individual distortion parameters ($\alpha_i \sim U(-100,100)$ and $\beta_i \sim U(-100,100)$). We also use standard normal priors for the estimates of the stimuli positions (e.g. $Z_j \sim N(0,1)$). Finally, we employ diffuse inverse Gamma priors for both the respondent-specific and stimuli precision terms $\tau_i$ and $\tau_j$, respectively. As Hare et al. (2015) note, estimating these unique stimuli and respondent error variances allows for heteroskedastic error. To introduce exchangeability between the $\tau_i$ parameters, inverse Gamma hyperpriors are also placed on the shape and scale parameters of the inverse Gamma priors for these terms (Hare et al. 2015). Specifically, $\tau_j \sim \text{Gamma}(0.1,0.1)$, $\tau_i \sim \text{Gamma}(\nu, \omega)$, $\nu \sim \text{Gamma}(0.1,0.1)$, and $\omega \sim \text{Gamma}(0.1,0.1)$.
3. Bayesian A-M Scaling: Convergence Diagnostics (Stimuli)

![Trace of FPV](image1)

![Density of FPV](image2)

![Trace of PRO](image3)

![Density of PRO](image4)

![Trace of UCR](image5)

![Density of UCR](image6)