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Estimating legislators' preferences using background characteristics

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ABSTRACT *This paper develops a way of thinking about and measuring private ideology by applying research on attitude formation to the measurement of political ideology. The measure, called FILTER, is widely generalizable to the study of political elites in and out of government, within and across countries. Application of this belief formation model of political ideology avoids several measurement problems that afflict commonly used action-based measures of public ideology. The method can be used to estimate the personal political preferences of politicians whose preferences are either not directly observable, or those who may be punished for making their preferences public. The method is applied to generate estimates for the 107th US Senate.*

Ideology is a central explanation for a wide range of political behavior. Measures of political ideology are used to examine how judges decide cases, how legislators cast roll call votes and whether members of congressional committees are policy outliers. This paper applies research on attitude creation, coherence, and stability to develop a method for measuring the private ideology of public officials.

In discussions of politics, the term ideology is commonly used to describe a system of beliefs in which a political object has some degree of centrality.[1] This broad definition allows for the varying nature of belief systems across people and contexts. An inventory of the factors that reflect ideology is so broad, in fact, as to require a set of general characterizations rather than precise rules in order to identify its boundaries.[2]

The desire to apply the concept of ideology as an explanation for elite political behavior has led to the widespread use of a single aspect of this broader concept. In particular, quantitative studies of legislators, presidents and jurists frequently seek to explain the influence of personal beliefs, as reflected by some degree of social welfare liberalism, on political behavior. To do this, elites' positions are rated on a social welfare liberalism continuum.[3] While use of such a scale has been roundly

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critiqued[4] and reflects only a small part of the broader ideological concept, this construction provides a straight forward method for scholars seeking to summarize elites' personal preferences.

In this context, ideology is commonly equated with an individual's revealed political preferences as calculated using their public behavior. Use of this aspect of ideology is necessary in order to make quantitative assessments of policy preferences tractable. However, even in this narrow domain, the usefulness of existing measures of preferences is limited. This paper attempts to overcome some of these limitations by identifying the sources of political beliefs and how they map into this construction of political ideology. In particular, I attempt to leverage our understanding of the influences on the formation and existence of ideology to develop an alternative measure that is more useful to these quantitative scholars.

Ideology is commonly equated with an individual's revealed political preferences. Consequently, most measures are based on elites' public behavior. This paper offers a different perspective by identifying the sources of political beliefs and showing how they map into political ideology. This perspective is based on social psychology and sociology research showing that attitudes are influenced by individuals associations and experiences. This new 'bottom up' perspective is operationalized in order to generate and validate ideology estimates for the 107th US Senate. More specifically, the measure, called FILTER, avoids problems that afflict conventional action-based measures of public ideology that are based on behavior.

Private ideology is distinct from public ideology because it is based on politicians' personal beliefs rather than their public behavior. Development of a private ideology measure offers a theory-based method for obtaining ideology estimates and standard errors that are common to the full range of public actors. FILTER scores are comparable across and within institutions. In addition, rather than being limited to the retroactive evaluation of incumbents, scores can be generated before behavior is observed thus enabling estimation of the ideology of freshmen legislators, judges, nominees to the Administration, candidates for political office as well as incumbents. The measure also allows for the study of the influence of personal beliefs on the behavior of public officials, without the problems associated with commonly used action-based measures.[5] Perhaps most importantly, the logic underlying the FILTER process—that the factors that affect the development of political ideology should be used to estimate it—is applicable in any context. While the precise model specified here might not always be appropriate or even estimable, the concept that ideology is based primarily on socialization is generalizable to politicians in a wide variety of settings. Consequently, private ideology is important for several reasons.

Perhaps the central question facing students of legislative representation examines the degree to which legislators reflect the preferences of their constituents. Private ideology is an especially common explanation for legislator behavior.[6] However, action-based ideology measures do not allow us to accurately evaluate the impact of personal preferences on behavior. Use of action-based

measures in these studies introduces numerous statistical and theoretical problems.[7] As an action free measure, FILTER is appropriate for use in such studies.

Second, action-based measures are not calculable for a wide range of political actors who either lack a track record, or whose personal preferences, if revealed, might cost them their job. Many candidates for office lack the visible behavior necessary to estimate their ideology using actions based measures such as speeches or votes. Similarly, action based measures do not exist for administrators or other bureaucrats whose public behavior deviates from that of their principal only at risk of their job. However, the manner in which these politicians or bureaucrats perform their job on less salient issues may be heavily influenced by their personal beliefs.

Third, action-based measures are seldom comparable across institutions because the behavior upon which these measures are based differs across institutions. It is difficult to compare the ideology of a judge with that of a legislator absent a common metric underlying their behavior.

The 'bottom up' perspective provides a theoretical framework that overcomes these problems. Simply put, if ideological outlook is formed by one's experiences, then such experiences provide a common baseline from which political ideology can be constructed and compared. If individual ideologies are constructed in the same general manner—through association and experience, then a general model of belief formation would allow for the development of ideological estimates that are distinct from behavior and are based on a common space on which all individuals might be placed whether they are jurists, presidents, governors, assemblymen or bureaucrats. Consequently an understanding of the influences on ideology offers scholars the opportunity to account for ideology in contexts in which it has previously been ignored or omitted due solely to its unavailability or the invisibility of the actor's behavior. Moreover, the gap between public and private ideology is of great interest. While the measure developed herein may not be useful for estimating public ideology, this measure promises to help us describe, compare and explain differences between public and private ideology.

This paper proceeds in the following manner. I begin by defining ideology and identifying the characteristics that ideology measures should display. Next, I explain how research on attitude formation and organization leads to a different way of thinking about ideology and to the development of a new method detailed herein, called FILTER. Then, I estimate, test and validate FILTER scores by comparing FILTER scores with legislators' ideological self-placement in the 100th House of Representatives. The results show that FILTER scores are an excellent predictor of legislator ideology. I conclude by applying FILTER to estimate ideology estimates for the 107th Senate.

Ideology and belief formation

This section uses the bottom up perspective to develop a method for estimating ideology. While the efficacy of any specific statistical model may be limited by a number of factors, the development and validation of estimates obtained herein

provide evidence of the validity of the bottom up perspective. More specifically, this section demonstrates that plausible estimates comparable to those achieved using top down measures can be developed using the bottom up perspective.

Ideology is a '... configuration of ideas and attitudes in which the elements are bound together by some form of constraint or functional interdependence'.[8] Examination of the way that attitudes are formed promises to enrich our understanding of how ideology develops. The principle finding in attitude research is that ideas and attitudes are not innate, but learned.[9] This is not to say that experience alone influences beliefs. Reeher aptly describes attitudes as resulting from a combination of predisposition and experience.[10]

Predisposition affects attitudes through genetics, physiological influences, and perception. Generally, studies find that genetics play a relatively small role in affecting attitudes and beliefs.[11] Physiological factors are also held to influence attitudes. Changes in the body, drug use, and sensory deprivation can all influence attitudes.[12] These factors likely affect attitudes by shifting the way in which individuals perceive and interpret events.[13] Thus, individuals can interpret identical events differently.

In the seminal work on attitude formation, Gordon Allport argues that attitudes are formed through integration, individuation, trauma, and 'ready made'.[14] Each of these mechanisms describes a process through which experience affects attitude formation. Similarly, Sherif and Cantril reject the notion that attitudes are hereditary or genetic. Instead, they find that attitudes are acquired through a cognitive process.[15] Major attitudes are derived from group association or membership.[16]

The support for these findings is very strong. Centers finds that role and status influence attitudes, and that group members share common psychological characteristics.[17] Hyman also confirms support for Allport's results.[18] More recently, Boninger finds that self-interest, social identification and value relevance all influence attitudes.[19] Barnes (1966) argues that ideology is partly a function of political organization.[20] Converse notes that ideology seems to form in clusters.[21] Anecdotal evidence also abounds, with studies of groups showing attitudes to be similar intra-group, and different inter-group.[22]

One result of this literature is the application of background characteristics to predict behavior. In their study of the 1940 Presidential election, Lazarsfeld, Berelson and Gaudet use background characteristics to predict the party for which an individual is likely to vote.[23] Petrocik[24] develops a model that uses similar elements to project votes in the 1980 presidential election. Background characteristics have even been used to reflect ideology in studies of legislator decision-making.[25] The methodology advanced herein borrows from these studies.

The FILTER theory

Socio-psychological theories of attitude formation provide leverage for developing a measure of ideology that avoids relying on leaders' purposive behavior. Since many factors influence an individual's ideology, a statistical

model identifying factors that 'predict' ideology might explain large proportions of ideological variation.[26]

While measures of public officials' personal ideology do not exist, such measures do exist for elites. Using this information, I fit and validate a predictor equation on elites and extrapolate it to public officials. I calibrate this method by using elites who are identical to elected officials in nearly every way except in the need to be strategic.[27] The logic of the measure is seen in the following three-step process:

1. Estimate a model of individual ideology using elite data.
2. Collect data on the values of the independent variables for legislators.
3. Use the fitted model from step 1 and the data from step 2 to generate estimates of legislator ideology.

Estimation

Several conditions are necessary to make a suitable estimate. First, a method for selecting variables is developed. Then, a survey of people similar to the forecast group is located. This survey must query respondent's ideological self-placement. It must also collect data on factors that influence ideology. Information on these variables must also be available for the forecast group.

The difficulty of the task is increased by data unavailability. Information concerning legislators might not be available for elites. For instance, many studies of party elites fail to collect information on important variables such as respondents' religion, or are based on atypical samples of elites such as convention delegates. Many variables that influence attitudes are, in practice, unavailable for elected officials. As a result, there are extensive limitations on the data available for inclusion in the model.

The massive literature on attitudes provides a large selection of variables with which to explain ideology and overcome problems of data unavailability.[28] By identifying a large list of potential influences, I hope to identify variables available in both the sample and forecast group.

Estimating ideology from the bottom up

To test the FILTER methodology, an estimate is developed for the 100th House of Representatives. The House is chosen as the test case for the FILTER method for several reasons. First, a sample survey of House Members of the 100th Congress is available to validate the FILTER methodology. Second, survey data from a calibration group and background characteristics from the forecast group are available. Finally, the US Congress is among the most commonly studied legislative bodies in the world. The large amount of research on the ideology of legislators provides important background for testing the measure, while making its construction useful to the largest possible audience.

Calibration sample and estimate group

The calibration sample used to estimate the regression is from *Party Elites in the United States 1984: Republican and Democratic Party Leaders*. This study randomly surveyed County Chairs and National Convention Delegates. Surveys were also sent to all State Chairs and members of the Democratic and Republican National Committees. Research on political attitudes finds large differences between elite and mass ideology.[29] These differences are traced to higher levels of education and of political involvement among elites.[30] Respondents in the *Party Elites* studies share legislators' relatively high levels of education and political involvement. At the time of the study, about 64% of elites held a bachelor's degree, about two and a half times the rate among the masses (24%). In addition, many of the factors held to influence attitudes are available in the survey. Finally, information on the background characteristics of House members is widely available. The data available for House members closely matches that collected in the *Party Elites* study. A discussion of the implications of these differences can be seen in Appendix A.

Influences on attitudes: Operationalization

Attitudes are formed through experience and group socialization.[31] Three specific group associations or characteristics disproportionately influence attitudes and beliefs.

Party identification is among the earliest formed group associations.[32] Party has a strong influence on attitudes and beliefs and party identification is formed earlier than are ideological preferences.[33] Early party affiliation usually endures.[34] For elites, party identification serves as an important influence on ideology through socialization. Partisanship is likely to be an even stronger influence on legislators. New legislators attend classes, seminars and retreats sponsored by their party (e.g. White, 1956). Republicans are scored '1' while Democrats are scored '0'. The party variable should be positively signed, as Republicans are more conservative than are Democrats.[35] The definition of party and discussion of its appropriateness for use in the forecast model is found in Appendix B.

Geographic cleavage is accounted for by the region variable. Research suggests that southerners are more conservative, while those from the northeast are more liberal.[36] Two dummy variables account for regional effects and are scored '1' for respondents from southern and northeastern states and '0' otherwise. Consequently, the south variable should be positively signed while the northeastern variable should be negatively signed.

Individual beliefs also vary by occupation.[37] Members of a profession may be similarly socialized, and share similar economic interests.[38] Three occupation variables are developed for this study. Since there is no obvious scale of occupational conservatism, respondents are characterized as to whether they are salespeople, professionals or farmers. Members of these groups are coded '1' while non-members are coded '0'. These professions, as opposed to blue-collar workers, are likely to be more conservative. These signs are expected to be positive.

Education primarily differentiates the sophistication of an individual's beliefs system. Studies find that the better educated have more sophisticated belief systems.[39] However, the profound nature of this finding leads many to overlook its lasting influence on general attitudes.[40] Education is measured according to highest degree achieved and should be negatively signed. Scores range from '1', for those that did not complete high school, to '6' for those that received doctorates.

Ethnic cleavages might also influence beliefs.[41] Two dummy variables are built to account for these differences. Elites identifying themselves as Black are scored '1' while others are scored '0'. Respondents that identified themselves as Hispanic are scored identically. The signs for both of these variables are expected to be negative.

Family effects are, arguably, the most difficult to operationalize. While there is a large literature that examines the influence of family socialization on beliefs, detailed family information is seldom available in elite surveys. Important variables such as economic status during youth or parents party identification are unavailable. Contemporary family background characteristics are also difficult to find. Historically, increased political and religious conservatism (e.g. family values) has been associated with the institution of marriage. Family is measured by inclusion of two dummy variables. Respondents who are divorced are scored '1', while widowers, singles and those who are married are scored '0'. In the second variable, respondents who are single are scored '1', while the others are scored '0'. The signs for these variables should be negative.

Political beliefs are also differentiated by ones' gender.[42] For instance, women behave distinctively on issues of efficacy, and violence.[43] Gender is scored '0' for males and '1' for females and is expected to be negatively signed.

Age has also been shown to influence attitudes. Some argue that 'differences in participation across age groups are artifacts of ... generational socialization'.[44] To account for age, respondents under age 30 are coded as '30', while all others are scored according to their actual age.[45] This coefficient should be positively signed as people are held to become more conservative with age. In addition, an interaction term is built. Research shows that the strength of party support increases with age.[46] The interactive term combines the two variables. For this variable party was scored '-1' for Democrats and '1' for Republicans.[47] The product of this interaction reflects this variable. The socialization effect of the great depression is accounted for by creating a dummy variable for respondents born between the years 1905 and 1920. The sign of this variable is expected to be negative.

The dependent variable is individual ideological self-placement. Ideology is measured by asking respondents to characterize their own political beliefs on a five point scale, where '1' is very liberal, '2' is 'liberal', '3' is 'moderate', '4' is 'conservative' and '5' is 'very conservative'.

To summarize, seven substantive variables meet the basic requirements for inclusion in the ideological model. From these, 15 proxies are included in a baseline model that predicts ideology. However, theoretical importance and data

Table 1. Baseline and final models predicting elite ideology in 1984

Variable	Column A (Baseline)	Column B (Final)
Intercept	2.544***	2.797***
	0.1215	0.0479
Education	−0.0552***	−0.0571***
	0.0123	0.0111
Gender	−0.1724***	−0.1521***
	0.0332	0.0319
South	0.2647***	0.2539***
	0.0340	0.0334
Northeast	−0.1912***	−0.1864***
	0.0444	0.0429
Divorced	−0.1418*	−0.1439*
	0.063	0.0625
Single	−0.3131***	−0.3144***
	0.0603	0.051
Farmer	0.1716*	0.1613*
	0.0718	0.0641
Black	−0.1945*	−0.2078**
	0.0784	0.0754
Party	1.264***	1.152***
	0.1342	0.0305
Age	0.0037*	
	0.0017	
Depression	−0.1184	
	0.0635	
Sales	0.1189	
	0.0645	
Hispanic	0.0863	
	0.0767	
Party * Age	−0.0014	
	0.0013	
Professional	0.0191	
	0.0443	
Adjusted R^2	0.48	0.48
N	1972	1972

*$P < 0.05$; **$P < 0.01$; ***$P < 0.001$.

availability are a necessary though insufficient standard for inclusion in the forecast model. Variables must also predict elite ideology.

Model specification

To specify a model, I identify proxies for the phenomena influencing attitudes. The initial specification of the model includes all variables that meet the two requirements. The specific variables included in the baseline model are: Party, Black, Education, Gender, South, North, Single, Divorced, Farmer, Age, Professional, Salesman, Hispanic, Party∗Age and Great Depression.

Elite ideology is regressed on background characteristics to form a baseline model.[48] The results of this model can be seen in Column A of Table 1. All statistically significant variables are correctly signed. This baseline model explains about 48% of the variation in elite ideology—reasonably high given the error inherent in survey data. To specify the model, statistically insignificant predictors of ideology are eliminated one at a time.[49] Appendix C shows the results of each model estimated. The variables that remain in the model after the final run are: Age, Education, Gender, North, South, Divorced, Single, Farmer, Sales, Black, Great Depression and Party. The results of this estimation are seen in

Table 2. Comparison of ideology estimates from 1984 and 1980 data

Variable	1984	1980
Intercept	2.759***	2.883***
	0.0479	0.0416
Education	−0.0642***	−0.0558***
	0.0112	0.0085
Gender	−0.1586***	−0.1747***
	0.032	0.0297
South	0.2696***	0.2489***
	0.0336	0.0302
Northeast	−0.1782***	−0.135***
	0.0431	0.0385
Farmer	0.1767***	0.143***
	0.0647	0.054
Black	−0.222***	−0.1827*
	0.0761	0.0798
Party	1.176***	0.936***
	0.0306	0.0274
Adjusted R^2	0.47	0.45
N	2078	1925

Column B of Table 1. All variables are signed correctly and statistically significant. The final model explains about half of the variation in elite ideology—about the same as the base model. However, by specifying the model to maximize fit, the results may be unique to the 1984 *Party Elites* data. The model specification, accuracy and stability need to be validated.

Validation: Model specification, accuracy and stability

The accuracy and stability of estimates generated by the model outside the calibration sample are evaluated through cross validation.[50] *Party Elites in the United States, 1980* is similar to the 1984 study. As a result it makes for an excellent sample with which to validate the accuracy and stability of the FILTER model. Applying the ideological model to the 1980 survey data validates the general model. However, the age and depression variables that were significant predictors of ideology in the 1984 data are now insignificant. These results are seen in Appendix D. Since these variables have mixed theoretical justification for inclusion and they cannot be cross-validated, they are dropped from the model.[51]

For ease of comparison, Table 2 shows the results of the 1984 model after removing the age and Great Depression variables alongside of the 1980 results.[52] The similarity in the coefficients is striking.[53] The results validate the substantive form of the model. All variables are correctly signed, and statistically significant. The R^2 is also very similar, as the 1980 model explains 45% of the variation in ideology. Substantively, the model appears to be a good predictor of ideology.

The similarity of the two data sets allows the validation process to be taken further. The scores predicted by the model can be correlated with respondent's ideological self-placement, thereby testing stability of the coefficients. Substantively, this allows us to test the hypothesis that the manner in which ideology is formed is constant during the period examined. The hypothesis that the coefficients across years are equal is rejected if ideological self-placement is significantly different than the estimate.

To test the stability of these coefficients, and the quality of the estimate, the intercept and coefficients from the 1984 model are applied to the data for the variables in 1980. The result is an ideological prediction that can be compared to respondents' actual ideological self-placement in 1980. The results are promising. The predicted values of 1980 ideology based on coefficients from 1984 correlate at 0.67 with respondent's actual ideology. This is especially impressive considering that predicted ideology from 1984 correlates with actual 1984 ideology at about 0.69.

However, it is possible for the two scores to be correlated highly but still be inaccurate if estimates that make predictions are far from the elites' ideological self-placement. To test the accuracy of the ideology estimate, we can examine how well the fitted 1984 model predicts ideology for people from 1980.[54] Specifically, we can set up confidence intervals to determine whether the estimates generated for other elites in a different year vary beyond what we would expect from chance.

Substantively, coefficients from 1984 are used to generate ideological estimates for 1980. These estimates are then used to construct confidence intervals. These confidence intervals are examined to determine whether they contain the true ideology scores from 1980. If the coefficients vary within the range expected by chance, then 95% of confidence intervals generated should contain the true value for ideology. The hypothesis of no difference between the coefficients across years is rejected if the ideological self-placement of respondents lies outside of the confidence intervals.

Given these intervals, we expect about 5% of the true values to lie outside them by chance. The model does much better than this. Examination of the confidence intervals finds that in only nine (0.5%) out of 1922 projections, does the true value lie outside the interval. The ideological estimates are not significantly different from individual ideological self-placement. These results provide support for the FILTER method as the hypothesis that there is no difference between the actual and estimated values of ideology is *not* rejected. In sum, these findings are consistent with the crucial assumption of the FILTER methodology: that background experiences influence ideology in a systematic way. FILTER produces accurate, stable estimates across the two surveys.

The estimation group

The next step in the process is to collect data on the estimation group and generate the forecast. To calculate FILTER scores, a data set for the 100th House is built. Table 3 compares the mean background characteristics of elites and legislators.

Table 3. Summary statistics for elites as compared with 100th house members

	Elites		Members		
Variable	Mean	SE	Mean	SE	Difference
Black	0.044	0.004	0.051	0.011	−0.007
Single	0.096	0.006	0.055	0.011	0.041
Divorced	0.062	0.005	0.053	0.011	0.009
Northeast	0.179	0.008	0.220	0.02	−0.04
South	0.359	0.01	0.322	0.022	0.037
Party	0.481	0.010	0.404	0.024	0.077
Gender	0.393	0.010	0.046	0.010	0.347
Education	3.01	0.029	3.97	0.061	−0.96
Farmer	0.06	0.005	0.055	0.011	0.005
N	2277		435		

Several differences between the groups stand out. Most striking is the huge difference in the proportion of women in the two groups. Women make up about 39% of the elite sample, but just under 5% of House Members. Also noticeable is the large difference in the average education level across groups. Legislators on average have achieved one degree 'more' than elites. There also appear to be fewer Republicans in the House than in the sample of elites. The 1987 House is about 40% Republican while 48% of elite respondents identified themselves that way. Other smaller differences between groups are also present. For instance, House members appear less likely to be single than are the elite respondents.

However, some differences between the sample and estimation groups are not unexpected. The process for selecting members of the House explains some of these differences. Seats in the House are apportioned according to state population, a condition that does not apply to selection of party elites. Further, the House of Representatives is non-random in its selection process—skilled politicians disproportionately gain election and re-election.[55] The large difference in the education levels of the groups appears to stem from the overwhelming number of Members with professional degrees (about 47%). Most of these are attorneys whose training in argumentation and debate translates well to the electoral arena.[56]

FILTER scores are calculated by applying the coefficients in Column B of Table 1 to the data collected on House members. These scores provide the basis for externally validating FILTER for the 100th House.

External validation

To evaluate the quality of the estimates an external benchmark is needed. Finding one is difficult. After all, FILTER is developed because of the unavailability or inappropriateness of roll call based ideological measures. Fortunately, a method is available to validate the measure. The tests performed here are based on the concept of convergent validity.[57] A confidential survey gauges the ideological self-placement of members of the 100th US House of Representatives. Comparing estimates of ideology developed herein, to the self reported ideology reported by these Members of Congress allows us to assess the accuracy of the FILTER process. These results show that FILTER is a valid measure of private ideology—at least for members of the US Congress.

FILTER scores can be validated by comparison with legislators' ideological self-placement. In 1987, researchers surveyed House members on 7 issues, and asked them to rate their ideological self-placement on a scale from 1, extremely liberal, to 7, extremely conservative. While only 29% (126) of House members responded, the responses appear representative of the House as a whole.[58] As seen in Appendix D, comparison of the differences between House respondents and all House members on the variables examined in this study reveals no significant differences. FILTER correlates at 0.74 with legislators' ideological self-placement and is significant at the 0.001 level.[59]

The plot of ideological self-placement on FILTER, shown in Figure 1, demonstrates the quality of the measure. Overall, the plot depicts a strong positive correlation broken into two groups. Republicans tend to be grouped in a cluster in the top right portion of the plot; while Democrats are more scattered, appearing generally on the left lower portion of the graph. A small gap in the middle of the plot is consistent with descriptions of ideological distributions based on roll call votes.

An interesting group of outliers provide insight to the model. Several Representatives rate themselves 'conservative' (6), but score on the liberal side of the FILTER scale. Examination of these legislators' backgrounds shows them to be southern Democrats with moderate to liberal roots.[60]

Guarantees of confidentiality preclude divulging identifying information about particular legislators. However, investigation of the personal biographies—including personal interviews—of these outliers supports the estimates of the FILTER model over their self-placement. These cases also serve as a reminder that measurement error can also affect the survey instrument.[61] In sum, the several tests of the efficacy of the FILTER process support the finding that FILTER scores are a good measure of ideology. FILTER scores correlate highly with legislators' ideological self-placement and visual inspection reveals few outliers.

Application: The 107th Senate

This section applies the FILTER method to estimate scores for the 107th Senate. Table 4 lists the FILTER scores and standard errors for members of the 107th Senate.[62] Senators are listed from most liberal to most conservative.

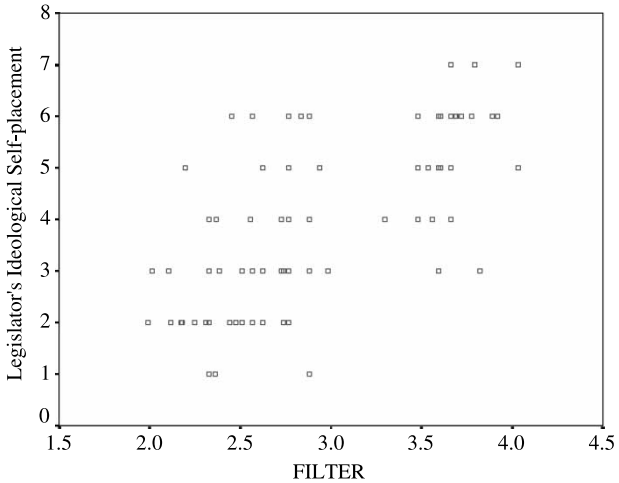

Figure 1. Scatterplot of FILTER on ideological self-placement.

Table 4. FILTER scores and standard errors for the 107th Senate

Name		FILTER	SE	Name		FILTER	SE
Mikulski, Barbara	D-MD	1.91	0.07	Collins, Susan	R-ME	3.13	0.08
Reed, John F.	D-RI	2.12	0.09	Snowe, Olympia	R-ME	3.41	0.05
Cantwell, Maria	D-WA	2.23	0.08	Gregg, Judd	R-NH	3.47	0.05
Kohl, Herbert	D-WI	2.25	0.07	Hatch, Orrin	R-UT	3.54	0.06
Torricelli, Robert G.	D-NJ	2.28	0.08	Jeffords, James	R-VT	3.55	0.06
Boxer, Barbara	D-CA	2.30	0.05	Bond, Christopher	R-MO	3.56	0.08
Dodd, Christopher	D-CT	2.33	0.05	Warner, John W.	R-VA	3.59	0.08
Kennedy, Edward	D-MA	2.33	0.05	Allard, Wayne	R-CO	3.61	0.05
Stabenow, Debbie	D-MI	2.34	0.08	Chafee, Lincoln	R-RI	3.63	0.05
Biden, Joseph R.	D-DE	2.35	0.05	Allen, George	R-VA	3.64	0.04
Leahy, Patrick	D-VT	2.36	0.05	Kyl, Jon	R-AZ	3.64	0.04
Lieberman, Joseph I.	D-CT	2.37	0.05	Ensign, John	R-NV	3.64	0.05
Dayton, Mark	D-MN	2.37	0.07	Smith, Bob	R-NH	3.65	0.05
Sarbanes, Paul	D-MD	2.40	0.06	Crapo, Michael D.	R-ID	3.66	0.07
Schumer, Charles E.	D-NY	2.41	0.06	Stevens, Theodore	R-AK	3.66	0.04
Clinton, Hillary	D-NY	2.42	0.06	Smith, Gordon	R-OR	3.68	0.04
Rockefeller, John D.	D-WV	2.48	0.05	Fitzgerald, Peter	R-IL	3.68	0.04
Carnahan, Jean	D-MO	2.48	0.04	Brownback, Samuel	R-KS	3.69	0.04
Wellstone, Paul	D-MN	2.50	0.05	Dewine, Michael	R-OH	3.69	0.04
Inouye, Daniel K.	D-HI	2.51	0.04	Specter, Arlen	R-PA	3.70	0.04
Murray, Patty	D-WA	2.51	0.04	Domenici, Pete V.	R-NM	3.71	0.05
Corzine, John	D-NJ	2.52	0.04	Enzi, Michael	R-WY	3.71	0.05

(*Continued*)

Table 4 - (*Continued*)

Feingold, Russell D.	D-WI	2.54	0.04	Voinovich, George	R-OH	3.73	0.05
Wyden, Ron	D-OR	2.54	0.04	Cheney, Richard	R-WY	3.76	0.04
Baucus, Max	D-MT	2.55	0.04	Hutchison, Kay	R-TX	3.77	0.05
Durbin, Richard J.	D-IL	2.55	0.04	Bennett, Robert F.	R-UT	3.78	0.03
Carper, Thomas R.	D-DE	2.56	0.04	Lugar, Richard	R-IN	3.79	0.05
Harkin, Tom	D-IA	2.57	0.05	Thomas, Craig	R-WY	3.80	0.03
Conrad, Kent	D-ND	2.57	0.05	Mccain, John S	R-AZ	3.82	0.04
Kerry, John F.	D-MA	2.57	0.05	Murkowski, Frank	R-AK	3.84	0.04
Feinstein, Dianne	D-CA	2.57	0.06	Thompson, Fred	R-TN	3.84	0.08
Johnson, Tim	D-SD	2.58	0.05	Inhofe, James M.	R-OK	3.84	0.04
Bayh, Evan	D-IN	2.59	0.05	Bunning, Jim	R-KY	3.85	0.05
Reid, Harry M.	D-NV	2.60	0.06	Roberts, Pat	R-KS	3.86	0.05
Levin, Carl M.	D-MI	2.60	0.06	Gramm, William P.	R-TX	3.86	0.05
Nelson, Ben	D-NE	2.60	0.06	Burns, Conrad	R-MT	3.87	0.04
Cleland, Max	D-GA	2.61	0.08	Hagel, Chuck	R-NE	3.89	0.06
Dorgan, Byron	D-ND	2.63	0.07	Grassley, Charles	R-IA	3.90	0.07
Akaka, Daniel	D-HI	2.65	0.05	Lott,Trent	R-MS	3.90	0.04
Daschle, Thomas A.	D-SD	2.66	0.03	Frist, William	R-TN	3.93	0.05
Lincoln, Blanche	D-AR	2.73	0.04	Cochran, Thad	R-MS	3.94	0.04
Landrieu, Mary	D-LA	2.74	0.04	Craig, Larry	R-ID	3.96	0.07
Hollings, Ernest F.	D-SC	2.80	0.04	Campbell, Ben	R-CO	3.96	0.07
Bingaman, Jeff	D-NM	2.82	0.04	Mcconnell Jr., Mitch	R-KY	3.97	0.04
Breaux, John B.	D-LA	2.82	0.04	Sessions, Jeff	R-AL	3.99	0.05

(*Continued*)

Table 4 - (*Continued*)

Nelson, Bill	D-FL	2.83	0.04	Santorum, Rick	R-PA	3.99	0.05
Byrd, Robert C.	D-WV	2.84	0.05	Shelby, Richard C.	R-AL	4.00	0.05
Edwards, John	D-NC	2.86	0.05	Hutchinson, Tim	R-AR	4.02	0.04
Graham, Bob	D-FL	2.92	0.07	Thurmond, Strom	R-SC	4.09	0.04
Miller, Zell	D-GA	2.96	0.06	Nickles, Don	R-OK	4.14	0.04
				Helms, Jesse	R-NC	4.16	0.04

Overall senators' scores are consistent with ideological stereotypes. While stereotypical labeling can be misleading, as it is often based on behavior or cultivated by a legislator's political opponents, the scores generally conform to expectations. Senators Boxer, Kennedy and Biden are toward the very top of the list (most liberal), while Senators Thurmond and Helms are toward the bottom (most conservative). Especially interesting is the correct placement of the moderates. Zell Miller, who later endorsed George Bush, is the most conservative Democrat while Senators Snowe and Collins who Democrats attempt to get to change parties are the most liberal Republicans. Also note that Jim Jeffords, who switched parties is rated here as among the most liberal Republicans.

There are, however, a few peculiar scores. Senator Orrin Hatch, commonly viewed as among the most socially conservative members of Congress, rates among the most liberal Republicans. Similarly, Paul Wellstone and Russ Feingold who are generally thought of as liberal Democrats also appear moderate relative to other Democrats in the chamber. One explanation for these scores is bias in the FILTER score caused by the omission of religion as a predictor variable. As discussed earlier, religion has been shown to play an important role in influencing individual beliefs and attitudes. In this case, it is reasonable to think that the omission of the influence of being Mormon on Hatch, and of Judaism on Wellstone and Feingold may effectively moderate their scores relative to the rest of the chamber. While there are no appropriate calibration surveys available that account for the influence of religion, future studies should incorporate this important socializing influence. The scores provide insight to policymaking in the 107th Senate.

First, the results bear on questions of policy extremism. Comparing the Senate Democratic median (2.55) to that of the GOP (3.77) we find that the GOP is over 40% farther from the chamber median (3.05) than are Senate Democrats. This is consistent with Krugman's (2002) argument about polarization.[63] Second, the ranking of FILTER scores shows that the freshmen Democrats tend to be very liberal relative to the rest of the party. Five freshmen Democratic Senators have FILTER scores to the left of Senator Paul Wellstone.[64] An infusion of liberal Democrats explains why consensus is more difficult to achieve in the 107th Senate.

Evaluating FILTER

A central question in evaluating the usefulness of any measure lies in the degree to which it is widely applicable to problems researchers wish to study. Generally, measures are constrained by place, time and data. Theoretically FILTER is limited by none of these factors. FILTER represents a general methodology for estimating the private ideology of public officials. So long as officials' beliefs are influenced by their experience or socialization the logic behind FILTER applies. Only our ability to *apply* the method is limited by time, place and data.

FILTER estimates may be time bound in two ways. First, FILTER is time bound to the extent that the meaning of ideology changes over time. Second, FILTER is time bound to the extent that the factors that influence the development of political ideology vary with time. For instance, the socializing effects of the Great Depression recede as those who experience it pass away.

FILTER estimates are also bound by place. In order for scores to be comparable the influences that help to form ideology must be both meaningful and similar. While the socializing influences on American political elites are similar across institutions and levels of government, fundamentally different processes are at work in different countries. Asking a Brazilian Deputy whether he feels affectively toward the Democratic or Republican party is not meaningful given its irrelevance to Brazilian society.[65]

FILTER estimates are also limited by the unavailability of data. While sociology and social psychology offer terrific insight into the nature of ideology, seldom is data available to fully harness this information. Frequently, important variables are either missing from elite surveys, or are unavailable for public officials. Indeed, the unavailability of data imposes the largest practical limit on the accuracy of measures that apply the FILTER methodology. While group association and socialization strongly influence ideological development, clearly other physiological and genetic influences play some role as well. To varying degrees, data unavailability limit the accuracy of ideological estimates.

The consequences of these limitations vary. The degree to which the influences on private ideology vary over time are largely unstudied. So too is the degree to which the meaning of the liberal-conservative construct, used to measure ideology herein, varies over time. However, the variations in either of these over short periods seem unlikely. Similarly, the limits of place do not seem overly burdensome. While the meaning of ideology may vary according to geography, the process developed herein seems well suited for studying individual governments, where political actors share similar socializing influences. Indeed, data unavailability seems to impose the biggest limitation on the ability to estimate ideology. However, for studies of contemporary politics this limitation seems likely to affect the accuracy of individual estimates more than our ability to generate them.[66]

Conclusion

This paper develops a methodology for estimating private ideology called FILTER. The methodology is predicated on the idea that the elements that help to form beliefs and attitudes can be used to estimate ideology. Substantively FILTER measures private ideology, a phenomenon distinct from the public ideology reflected in action-based measures.

FILTER does more than simply provide a method of estimating the ideology for American politicians. While the specific determinants of ideology may vary across time, cultures and countries, the empirical evidence that political beliefs are

formed through life experience provides an important common thread in our attempt to estimate ideology globally. Consequently, the FILTER process provides scholars an opportunity to estimate the ideology of public officials in any context where we have both an understanding of the influences on the formation of political beliefs, and obtainable data.

In order to develop an estimate, an ideological model is estimated on a sample of political elites. The coefficients from this model are applied to the characteristics of legislators. FILTER's wide applicability and generalizability stem from its construction. The results show that FILTER does a good job estimating private ideology. FILTER scores correlate highly with a study of House members' self-reported ideology obtained from a survey of members. While the precise model specified here may not always be appropriate or even estimable, (as evidenced by the unavailability of data on religion in the elite survey) the general process for estimating ideology using background characteristics and socialization is widely generalizable to politicians.

The development of this measure presents opportunities for research as well. Most immediately, the measure allows for an independent evaluation of the influences on the behavior of elected officials. Additionally, the development of a common ideology measure allows for the evaluation of inter-branch influence on governmental behavior. While this paper has proposed a new methodology to address a vexing problem, the process through which ideology is formed demands further investigation.

Appendix A. Implications of the different methods for estimating standard errors

The usefulness of the results presented herein depends very heavily on the Similarity assumption which holds that legislators' ideology is developed in the same manner as is that of the elites who constitute the forecast sample. However, scholars may disagree about the validity of this assumption. It is important to recognize that if this assumption is rejected, then the estimates of legislator ideology provided herein are statistically indistinguishable from one another. Technically, under this condition the appropriate standard error that should be used to estimate the confidence we have in these estimates is the standard error of the forecast rather than the standard error of the prediction (which is reported earlier). Confidence intervals generated from the standard error of the forecast substantially overlap and consequently the estimates are not statistically significantly different from one another.

The practical consequence of rejecting the Similarity assumption is that the estimates are much less useful than they might otherwise be. It is important to note that while the point estimates remain the same our confidence in them and their usefulness varies substantially. If we assume that legislators differ systematically from these elites, then the estimates we obtain cannot reliably be used to explain

differences among legislators such as when we attempt to explain their public behavior as a function of their private ideology.

There is some evidence to suggest that legislators and elites are drawn from the same population, however. We know that most politicians, particularly in the US, begin their political careers as activists and are recruited in to politics at various levels. Moreover, we also see evidence that the estimates correlate quite highly with existing measures of ideology even within parties. Finally, it is important to recognize that technically, the standard error of the forecast depends on things like the size of the calibration sample, factors that seem to have little relation to ideology, but instead relate strongly to our ability to estimate this slippery phenomenon.

Appendix B. Definition and explanation of party in the estimation model

Party is one of the most frequently used yet seldom defined political concepts. As used here, party refers to the affective attachment of the individual to the party.[67] This attachment develops during childhood, before ideology and for many individuals, is enduring.[68] A second conception of party refers to the pull, pressure or persuasiveness party leaders exert over particular legislators on specific votes. This conception of party influence can be described as 'coercive'.

This distinction bears directly on this work. The conception of party most commonly examined by Congress scholars is the coercive, rather than the affective, construction.[69] Consequently, when these measures are used in models of roll call voting behavior, they are theoretically independent as they tap different concepts. While the distinction between these concepts is not generally recognized, individual researchers have incorporated the distinct concepts into their work. Generally, studies of 'party voting' invoke the coercive definition, while studies that examine party affiliation invoke the affective concept.

Ideally, the measure used herein would account for the strength of the affective attachment. Unfortunately, no questions concerning strength of party identification were asked of respondents on the surveys used herein.

One concern scholars may have with the inclusion of party is that it dominates the model, explaining so much that other variables add little to the explanatory process. One might argue that since the variance is overwhelmingly explained by party, this model is not much of an improvement on a model that includes only party; thereby calling into question the logic underlying FILTER. To evaluate this I examine the relationship between FILTER and legislators ideological self placement within parties. The results show that the background characteristics do a good job differentiating between legislators. Please see endnote 35 for specific details.

Appendix C. Regression models of factors predicting elite ideology

Variable	Baseline	Iteration 2	Iteration 3	Iteration 4	Iteration 5	Iteration 6	Iteration 7
Intercept	2.544***	2.56***	2.62***	2.621***	2.652***	2.741***	2.797***
	0.1215	0.1156	0.0998	0.0998	0.0985	0.0886	0.0479
Education	−0.0552***	−0.0538***	−0.0542***	−0.0540***	−0.0586***	−0.0595***	−0.0571***
	0.0123	0.0118	0.0118	0.0118	0.0115	0.0115	0.0111
Gender	−0.1724***	−0.1745***	−0.1754***	−0.1738***	−0.175***	−0.1711***	−0.1521***
	0.0332	0.0328	0.0328	0.0328	0.0328	0.0328	0.0319
South	0.2647***	0.2645***	0.1755***	0.2675***	0.2671***	0.2673***	0.2539***
	0.0340	0.0340	0.0339	0.0339	0.0339	0.034	0.0334
Northeast	−0.1912***	−0.1906***	−0.1907***	−0.1909***	−0.1933***	−0.1923***	−0.1864***
	0.0444	0.0443	0.0443	0.0443	0.0444	0.0444	0.0429
Divorced	−0.1418*	−0.1401*	−0.1414*	−0.1391*	−0.1414*	−0.1448*	−0.1439*
	0.063	0.0628	0.0628	0.0628	0.0628	0.0628	0.0625
Single	−0.3131***	−0.3129***	−0.3151***	−0.3167***	−0.3127***	−0.3296***	−0.3144***
	0.0603	0.0603	0.0602	0.0602	0.0602	0.0597	0.051
Farmer	0.1716*	0.1589*	0.1585*	0.1617*	0.1482*	0.1432*	0.1613*
	0.0718	0.0654	0.0654	0.0653	0.065	0.065	0.0641
Black	−0.1945*	−0.194*	−0.1965*	−0.2005**	−0.2036***	−0.2015**	−0.2078**
	0.0784	0.0784	0.0783	0.0783	0.0783	0.0784	0.0754
Party	1.264***	1.264***	1.129***	1.128***	1.131***	1.133***	1.152***
	0.1342	0.1342	0.0315	0.0315	0.0315	0.0315	0.0305

(*Continued*)

Appendix C - (*Continued*)

Age	0.0037*	0.0036*	0.0037*	0.0037*	0.0036*	0.0015	
	0.0017	0.0017	0.0017	0.0017	0.0017	0.0014	
Depression	−0.1184	−0.1212	−0.1266*	−0.1255*	−0.1288*		
	0.0635	0.0631	0.0629	0.0629	0.0629		
Sales	0.1189	0.1056	0.1067	0.1072			
	0.0645	0.0566	0.0566	0.0566			
Hispanic	0.0863	0.0858	0.085				
	0.0767	0.0767	0.0767				
Party * Age	−0.0014	−0.0014					
	0.0013	0.0013					
Professional	0.0191						
	0.0443						
Adjusted R^2	0.48	0.48	0.48	0.48	0.48	0.48	0.48
N	1972	1972	1972	1972	1972	1972	2078

*$P < 0.05$; **$P < 0.01$; ***$P < 0.001$.

Appendix D. Regression model estimated on 1980 data

Variable	1980
Intercept	2.814***
	0.0878
Education	−0.053***
	0.009
Gender	−0.1899***
	0.0315
South	0.2309***
	0.0316
North	−0.137***
	0.0409
Farmer	0.1191*
	0.0547
Black	−0.2004*
	0.0829
Party	0.9164***
	0.0288
Age	0.0023
	0.0016
Depression	−0.0387
	0.0496
Adjusted R^2	0.45
N	1687

*$P < 0.05$; **$P < 0.01$; ***$P < 0.001$.

Notes and References

1. P. E. Converse, 'The Nature of Belief Systems in Mass Publics', in D. A. Apter (Ed.), *Ideology and Discontent* (New York: Free Press, 1964).
2. R. Lane, *Political Ideology: Why the American Common Man Believes What He Does* (New York, NY: Free Press, 1962), p. 15.
3. Converse, op cit, Ref. 1.
4. Pamela Johnston Conover and Stanley Feldman, 'The Origins and Meaning of Liberal/Conservative Self-Identifications' *American Journal of Political Science*, 25, 1981, pp. 617–645.
5. Richard Hall and Bernard Grofman, 'The Committee Assignment Process and the Conditional Nature of Committee Bias', *American Political Science Review* 84, December 1990, pp. 1149–1166; John E. Jackson and John W. Kingdon, 'Ideology, Interest Group Scores and Legislative Votes', *American Journal of Political Science* 36, August 1992, pp. 805–823; William T. Bianco, *Trust: Representatives and Constituents* (Ann Arbor, MI: University of Michigan Press, 1994).
6. Robert A., Bernstein and William W. Anthony, 'The ABM Issue in the Senate, 1968–1970: The Importance of Ideology' *American Political Science Review* 68, September 1974, pp. 1198–1206; James. B. Kau and Paul H. Rubin, 'Self Interest, Ideology, and Logrolling in Congressional Voting', *Journal of Law and*

Economics, 22, 1979, pp. 365–384; R. A. Bernstein, *Elections, Representation and Congressional Voting Behavior: The Myth of Constituency Control* (New Jersey: Prentice Hall, 1989); Vincent L. Hutchings, 'Issue Salience and Support for Civil Rights Legislation among Southern Democrats', *Legislative Studies Quarterly* 23, November 1998, pp. 521–544.
7. Richard T. Carson and Joe A. Oppenheimer, 'A Method for Estimating the Personal Ideology of Political Representatives', *American Political Science Review,* 78, March 1984, pp. 163–178; Jackson and Kingdon, op cit, Ref 5; Bianco, op cit, Ref. 5.
8. Converse, op cit, Ref 1, p. 208.
9. Muzafer Sherif, 'A Study of Some Social Factors in Perception', *Archives of Psychology,* 1935, p. 27; Muzafer Sherif and C. Hadley, *The Psychology of Ego-Involvements: Social Attitudes and Identifications* (New York, NY: Wiley and Sons, 1947).
10. Grant Reeher, *Narratives of Justice: Legislator's Beliefs about Distributional Fairness* (Ann Arbor, MI: University of Michigan Press, 1996).
11. Albert Somit, 'Toward a More Biologically-Oriented Political Science: Ethology and Psychopharmacology', *Midwest Journal of Political Science,* 12, November 1968, pp. 550–567; William J. McGuire, 'Attitudes and Attitude Change', in G. Lindzey and E. Aronson (Eds) *The Handbook of Social Psychology,* Third Edition (New York, NY: Random House, 1985), pp. 233–319. However, McGuire regards the role of genetics as an open question. Regardless, genetic data are seldom available to social scientists.
12. Somit, op cit, Ref. 11; Dean Jaros, 'Biochemical Desocialization: Depressants and Political Behavior', *Midwest Journal of Political Science,* 16, February 1972, pp. 1–28.
13. Sherif, 1935, op cit, Ref. 9.
14. G. Allport, 'Attitudes', in Carl Murchison (Ed.), *A Handbook of Social Psychology* (Worcester, MA: Clark University Press, 1935), pp. 798–843.
15. M. Sherif and H. Cantril, *The Psychology of Ego-Involvements: Social Attitudes and Identifications* (New York: John Wiley & Sons, 1947).
16. Samuel H. Barnes, 'Ideology and the Organization of Conflict: On the Relationship between Political Thought and Behavior', *Journal of Politics,* 28, August 1966, pp. 513–530.
17. Richard Centers, *The Psychology of Social Classes* (New York, NY: Russell and Russell, 1961).
18. Herbert H. Hyman, 1969, *Political Socialization: A Study in the Psychology of Political Behavior*, 2nd edition (New York, NY: The Free Press, 1969).
19. David S. Bonninger, Jon Krosnick, Matthew K. Berent, 'Origins of Attitude Importance: Self-Interest, Social Identification, and Value Relevance,' *Journal of Personality and Social Psychology,* 68, 1995, pp. 61–80.
20. Barnes, op cit, Ref. 16.
21. Converse, op cit, Ref. 1.
22. Paul F. Lazarsfeld, Bernard Berelson and Hazel Gaudet, *The Peoples Choice*, 2nd edition (New York, NY: Columbia University Press, 1948); F. Herzon, 'Ideology, Constraint, and Public Opinion: The Case of Lawyers', *American Journal of Political Science,* 24, May 1980, pp. 233–258; Conover and Feldman, op cit, Ref. 4.
23. Op cit, Ref. 22.
24. John R. Petrocik, 'An Algorithm for Estimating Turnout as a Guide to Predicting Elections', *Public Opinion Quarterly,* 55, 1991, pp. 643–647.
25. John E. Jackson and David. C. King, 'Public Goods, Private Interests, and Representation', *American Political Science Review,* 83, December 1989, pp. 1143–1164.
26. See e.g. Converse, op cit, Ref. 1.
27. Elite ideology is measured through the use of a confidential survey, which eliminates the potential for retribution for any intemperate or unpopular positions a respondent might take. This is in marked contrast to surveys performed by groups like Project Votesmart, which publicize legislators' positions.
28. E.g. Bernard R. Berelson, Paul F. Lazarsfeld and William N. McPhee, *Voting* (Chicago: Univ. of Chicago Press, 1956); Converse, op cit, Ref. 1; Allen H. Barton and R. Wayne Parsons, 'Meaning and Belief System Structure,' *Public Opinion Quarterly,* 41, 1977, pp. 159–180.
29. Converse, op cit, Ref. 1.
30. Converse, op cit, Ref. 1; Barton and Parsons, op cit, Ref. 28; Duane F. Alwin and Jon A Krosnick, 'Aging, Cohorts, and the Stability of Sociopolitical Orientations over the Life Span,' *American Journal of Sociology,* 97, July, 1991, pp. 169–195.
31. Allport, op cit, Ref. 14; Sherif, op cit, Ref. 9; Sherif and Cantril, op cit, Ref. 15; Lazarsfeld *et al*., op cit, Ref. 22; Hyman, op cit, Ref. 18; Conover and Feldman, op cit, Ref. 4; Bonninger, op cit, Ref. 19.
32. M. Kent Jennings and Richard G. Niemi, 'The Transmission of Political Values from Parent to Child', *American Political Science Review,* 62, March 1968, pp. 169–184; Hyman, op cit, Ref. 18.

33. Angus Campbell, Philip E. Converse, Warren E. Miller, and Donald E. Stokes, *The American Voter* (Chicago, IL: University of Chicago Press, 1960); Jennings and Niemi, op cit, Ref. 32; Richard Merelman, 'The Development of Political Ideology: A Framework for the Analysis of Political Socialization', *American Political Science Review,* 63, September 1969, pp. 750–767.
34. Jennings and Niemi, op cit, Ref. 32; Charles H. Franklin, 'Issue Preferences, Socialization, and the Evolution of Party Identification', *American Journal of Political Science,* 28, August 1984, pp. 459–478.
35. The critical reader may be unmoved by the theoretical discussion of the appropriateness of the inclusion of party in Appendix B. To assuage these concerns I pursue two statistical remedies. First, I ran the calibration model without party. All of the variables found to be significant later, remained so. While the correlation between predicted scores and actual elite ideological self-placement dropped from almost 0.7 to about 0.33, the results were still strongly positive, and the F statistic was significant ($P < 0.01$). Second, I compared FILTER scores with House Members' actual scores *within* parties in order to control for this effect. This is a very conservative test, since the FILTER model is fit across parties rather than within them; a substantive model that fit equally well would likely do worse within these sub-samples. While the predictive power is diminished from the inter-party model, the results show a highly significant ($P < 0.01$), positive relationship between FILTER and members' ideological self-placement within each party ($r = 0.43$ for Republicans and 0.32 for Democrats).
36. Norman Nie, Sidney Verba and John R. Petrocik, *The Changing American Voter* (Chicago, IL: University of Chicago Press, 1979).
37. Stuart Rice, *Quantitative Methods and Politics* (New York, NY: Knopf, 1928); Lazarsfeld *et al*., op cit, Ref. 22; Berelson *et al*., op cit, Ref. 28; Lane, op cit, Ref. 2.
38. Campbell *et al*., op cit, Ref. 33; Merelman, op cit, Ref. 33; Herzon, op cit, Ref. 22.
39. Converse, op cit, Ref. 1; Barton and Parsons, op cit, Ref. 28.
40. Centers, op cit, Ref. 17.
41. Campbell *et al*., op cit, Ref. 33; V.O. Key, *Public Opinion and American Democracy* (New York, NY: Knopf, 1961).
42. Rice, op cit, Ref. 37; Campbell *et al*., op cit, Ref. 33.
43. Benjamin I. Page and Robert Y. Shapiro, *The Rational Public: Fifty Years of Trends in Americans Policy Preferences* (Chicago, IL: University of Chicago Press, 1992).
44. Steven J. Rosenstone and John M. Hansen, *Mobilization, Participation and Democracy in America* (New York, NY: Macmillan, 1993); M. Kent Jennings and Laura Stoker, 'The Persistence of the Past: The Class of 1965 Turns Fifty'. Paper prepared for the 1999 Annual Meeting of the American Political Science Association, Atlanta, Georgia, September 2–5, 1999. But for a contrary view, see Norval Glenn and Ted Hefner. (1972), 'Further evidence on aging and party identification,' *Public Opinion Quarterly*, 36, 1972, pp. 31–47.
45. This variable begins with age 30 because the data was collected in this manner in the survey. Given the sample group, few respondents are likely to be under 30 years of age.
46. Duane F. Alwin and Jon A Krosnick, 'The Reliability of Survey Attitude Measurement,' *Sociological Methods and Research,* 20, August, 1991, pp. 139–181.
47. This interaction was coded in this manner to account for the observation that opinion location becomes more extreme with age (ibid).
48. The dependent variable is categorical and therefore ordered probit or logit may seem more appropriate. However, OLS is used because the data is unusual in that the data generating process (the survey of elites) introduces characteristics for which there is no theoretical rationale. Specifically, the underlying distribution of ideology is believed to be continuous and possibly normal rather than the categorical data we observe. Since the categorical nature of the data is imposed by the survey methods, OLS is appropriate for estimating the model. In this case, OLS has ancillary advantages as presented in commonly available statistical packages in regards to ease of forecasting and bootstrapping. Regardless, the results are robust to changes in the estimator.
49. Stepwise regression is controversial, though appropriate in this case as future users of the method are likely to face obstacles in obtaining all of the variables in the base model. The primary danger it poses, overfitting, is alleviated thorough extensive external and internal validation as discussed later.
50. The specification of the forecast model is confirmed using the bootstrap. These results are available from the author.
51. These results suggest that there is something substantively different about the two samples. This may stem from changes in the Convention Delegates in those years. Keep in mind that supporters of the party nominee are disproportionately represented at the conventions. So, the effects of these variables may be skewed by changes in the characteristics of these supporters.

52. Since the 1980 model omits the marriage related variables, I re-ran the 1984 model to exclude those variables (single and divorced) to facilitate comparison. Results concerning the correlation between estimates, the similarity of estimates, statistical significance, *r*-squared, and confidence intervals are depicted between models of the identical form.
53. However, these results do not stem from overlap in the respondents across years. While the precise number of respondents cannot be ascertained, the sample characteristics suggest that only about 70 respondents out of 2078 are likely to have been included in both samples.
54. Robert S. Pindyck and Daniel L. Rubinfeld, *Econometric Models and Economic Forecasts*, Third Edition (New York, NY: McGraw Hill, 1991).
55. John R. Zaller, 'Politicians as Prizefighters: Electoral Selection and Incumbency Advantage', in John Geer (Ed.), *Party Politics and Politicians* (Baltimore, MD: Johns Hopkins University Press, 1998).
56. Alan Kornberg and N. Thomas, 'The Political Socialization of National Legislative Elites in the United States and Canada', *Journal of Politics,* 27, November 1965, pp. 761–775.
57. Donald T. Campbell and Donald W. Fiske, 'Convergent and Discriminant Validation by the Multitrait-Multimethod Matrix', *Psychological Bulletin,* 56, 1958, pp. 81–105; Robert Adcock and David Collier, 'Measurement Validity: A Shared Standard for Qualitative and Quantitative Research, *American Political Science Review,* 95, 2001, pp. 529–546.
58. E. R.A.N. Smith, R. Herrera and C. Herrera, 'The Measurement Characteristics of Congressional Roll Call Indexes', *Legislative Studies Quarterly,* 25, May 1991, pp. 283–295 and at p. 284.
59. I also assessed the external validity of the FILTER procedure by comparing FILTER to the most widely used measure of public ideology called NOMINATE (Poole and Rosenthal 1997). FILTER correlates with NOMINATE at 0.897 and 0.899 for the 100th House and Senate, respectively.
60. Michael Barone and Grant Ujifusa, *The Almanac of American Politics 1994* (Washington, DC: National Journal, 1993).
61. The most obvious single outlier represents an ethnically diverse district. After speaking with this now retired House member, it appears that more information would help rate him more accurately, as the forecast omits elements that would move him left. Unfortunately, data is not available for all relevant variables in the elite studies.
62. Standard errors are calculated using the standard error of the prediction in Stata 6.0.
63. Krugman argues that policy consensus is difficult to achieve because the GOP has become increasingly extreme (Paul Krugman, 'America the Polarized', *The New York Times*, January 4, 2002).
64. Though the absence of religion in the elite study precludes its inclusion which likely makes Wellstone appear more moderate (and less liberal) than he is. A similar effect appears to moderate Hatch. Additional testing on data for which religion is available (but other variables are not) supports this hypothesis.
65. E.g. Scott Desposato, 'Legislative Politics in Authoritarian Brazil', *Legislative Studies Quarterly,* 26, 2001, pp. 287–320.
66. The FILTER process is limited by the multidimensionality of ideology as a construct. However, while the measure proposed herein may be crude, to the extent it poorly reflects the nuance of ideology as broadly defined, it nonetheless improves on (non) existing measures and provides a potentially important alternative to existing measures of public ideology.
67. Campbell *et al*., op cit, Ref. 33.
68. Campbell *et al*., op cit, Ref. 33; Jennings and Niemi, op cit, Ref. 32; David Miller and O. Sears, 'Stability and Change in Social Tolerance: A Test of the Persistence of the Hypothesis', *American Journal of Political Science,* 30, February 1986, pp. 214–236; Jennings and Stoker, op cit, Ref. 44. While the process of party formation has been challenged, even revisionist scholars find a lasting influence from socialization (Franklin, op cit, Ref. 34).
69. E.g. Rice, op cit, Ref. 37; James Turner, *Party and Constituency: Pressures on Congress* (Baltimore, MD: Johns Hopkins, 1951); Wilder W. Crane Jr., 'Do Representatives Represent?', *Journal of Politics,* 22, May 1960, pp. 295–299.