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Two Decades of Israeli Legislative Politics: 1988 – 2006

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Abstract

In this paper we make some roadways towards addressing a long overdue topic in the subfield of legislative politics, namely, legislative outcomes: bills. We rely on a recently articulated comprehensive theory of legislative behavior (Schofield and Sened, 2006) to push the envelope one notch further and promote the study of legislative outcomes. This is a neglected, but absolutely critical topic to address if we wish to pretend to know what legislative politics is all about. We use a recently developed technology of computing the uncovered set (Bianco, Jeliaskov and Sened 2004) to connect a well known theory of the feasible set of legislative outcomes with Schofield and Sened's (2006) theory of legislative behavior and provide some initial empirical computations of uncovered sets in the Israeli legislative body to demonstrate the usefulness of the exercise and the insight that can be obtained from it. We conclude by pointing at the direction of what we believe to be the next step in this line of research, namely the direct estimation of bill location in the same spaces we have been estimating legislators' ideal points and computing uncovered sets (Clinton and Meirowitz, 2003, 2004; Jeong, 2008). The uncovered set seems to be establishing itself as a very potent predictive set for legislative environments. What remains is to estimate the actual locations of final bills to directly test the viability of this predictive set and, more importantly to cover this crucial missing link in the study of legislative politics.

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1. Introduction

Political scientists who study legislative politics rarely study the outcomes of these processes. The introduction of roll call data in the 1980's allowed students of legislative politics to study what we refer to as 'ideal points' of legislators. Research has often focused on individual decision making by legislators, coalition formation, party governance and party politics, but the outcomes of legislative processes has rarely been the subject of systematic investigation. One reason for this omission is rather straight forward: while votes of legislators and the variables that may affect these votes are easy to explore, bills themselves are much harder to study.

How can we do better at studying political legislative outcomes with the customary rigor of the current tradition of empirical political science research? This paper proposes one rather innovative way of doing so. We illustrate with detail and precision the process of legislative politics without resorting to a single regression analysis. We provide minute details of the motivations (or lack thereof) that stand behind the voter's decision. How the voter's decision is translated into the choice of elected officials and how those elected official constrain the set of future legislative outcomes. Due to space and data limitation we stop short, in this paper, of confronting this analysis with its ultimate test, namely the corroboration or lack thereof, of the predictions deducted from our analysis. To do this we would need a relatively large set of legislative outcomes carefully analyzed and precisely estimated. We do not have the relevant data at hand to complete this exercise in this paper and we must constrain ourselves to reasonable length of exposition. We do, however, provide some clear guidance on how this last step of the analysis could be completed in future research in the final, concluding section.

Structure of the Paper: we begin with a short exploration of the subject matter and a clear presentation of the goal of the paper. In section three we describe the basic theoretical framework that guides this study – namely, Schofield and Sened (2006).¹ Section four provides a Bayesian description and analysis of the data. Section five encompasses the main novel contribution of this paper. We use the detailed analysis to begin and address the issues of legislative outcomes. We discuss how this analysis may reflect on our underlying assumptions and the extent to which legislative outcomes 'represent,' in any meaningful way, the 'will of the electorate.' In our concluding remarks we outline directions for further research in this line of work.

¹ Schofield and Sened (2006) took more than a decade to complete. The theoretical foundations for this book were laid by Norman Schofield about a decade earlier. To save space, repetition and lengthy reference lists we use the Schofield and Sened (2006) reference in this paper. The reference list included in the book covers all the scientific work that went into this project beginning with Normans Schofield, Itai Sened and so many other collaborators, co-authors and individuals who contributed to the development of the scientific effort that lead to this work. In this paper we see no point in repeating it unless we make direct reference to a specific item in this list.

2. *A comprehensive sense of how democratic systems work.*

How do democratic systems work is very simple to explain, but almost impossible to understand. When efforts are made to better understand the process they are usually broken down to small details studied in isolation and with little effort to provide a comprehensive picture of ‘what is going on.’ Students of elections tend to study motivations that guide voters in their vote decisions. Students of legislative politics try to explain the behavior of legislators with little if any reference to voters. Legislative outcomes are rarely studied at all. In a recent book, Schofield and Sened (2006) make an impressive effort to pull it all together into one structure of explanation.

In this paper we follow the lead of Schofield and Sened (2006) but adopt a more modest approach to provide the reader with a relatively easy to understand picture of how one such system works, namely the Israeli system in the last two decades. With absolutely no reference to regression or any other frequentist statistical model, we provide a very detailed exploration of a remarkable data set provided to us by Asher Arian and Michal Shamir (1990, 1995, 1999, 2002) and supplemented by data collected by Schofield and Sened (2006) and new data we collected specifically for this paper. Our purpose is to show how a very innovative approach to the analysis of this data can provide a rather clear sense of ‘what is going on’ while remaining very rigorous and careful in the analysis. Most of the data we use here was previously analyzed by Arian and Shamir (1990, 1995, 1999, 2002), as well as many others. In particular, some of the analysis in Schofield and Sened (2006) was revisited and reproduced here for the sake of completeness of the exposition. The main point of this paper, however, is not to report a new theory, or to expose the reader to a new data set or a new technology of data analysis. On the theory side we rely mostly on earlier work that we find very insightful for our purposes here, and the statistical tools we use are by now standard in the discipline. The main purpose of this paper is to demonstrate how the combination of new advances in spatial theory and data analysis techniques can provide important insight to the understanding of how democratic systems work and to encourage more research on this.

Schofield and Sened (2006) followed the lead of Austen-Smith and Banks (1988) in analyzing the democratic process as a four stage sequential game. The original model (Austen-Smith and Banks, 1988) identified four sequential stages in this game as follow:

1. ***Party Positions:*** The game begins when parties position themselves to maximize their utility from the upcoming electoral campaign.
2. ***Voting:*** the next stage of the game is the election where voters presumably vote to maximize their utility from the outcome of the election.
3. ***Coalition Formation:*** Parties then engage in a coalition bargaining game to maximize their utility given the outcome of the election.
4. ***Legislation:*** The last stage of the game and one that is still understudied is the stage at which parliament engage in the practice of legislation with policy outcomes and consequences.

After the publication of this basic theoretical structure, each of the first three stages was comprehensively studied with remarkable detail. This, by now huge body of literature is reported at some length and remarkable detail in Schofield and Sened (2006). Our purpose here is mostly to advance the understanding of the last stage that was greatly understudied to this point. We concentrate on one particular case, the Israeli case in the last two decades, to provide a detailed, mostly descriptive, account of these stages. We rely heavily on Schofield and Sened (2006) and much related work in the next section, to set up the theoretical foundation of the analysis. In section four we provide minute, high resolution descriptive account of the three first stages of the game to lead to the main contribution of this paper contained in section five which is the goal of the paper and is to lay down the foundations for the a rigorous study of the last stage of this game. There, we use our analysis to set up the stage for future research on the nature of legislative outcomes. In theory and practice, the first three stages determine the outcome of the game. Those outcomes have rarely been studied. We provide the details necessary to comprehend exactly how the first three stages determine the final outcomes of the game and leave it for future research to provide the tools and evidence to test these predictions.

3. Theory: How do parliamentary democracies work?

In *Multiparty Democracies*, Schofield and Sened (2006) have gathered together their independent work and the work of so many others to describe how multiparty parliamentary systems work². Following a model originally suggested by Austen-Smith and Banks (1988), they carefully analyze the working of such systems as a four stage game, starting with parties positioning themselves to attract votes, followed by an electoral stage, a coalition formation stage and ending with the legislative policy making stage. In this section we briefly survey the four stages staying away from technical notations that can be found in abundance in the original work cited.³

Party Positioning

Parties position themselves to attract the electorate. In uni-dimensional environments, parties should converge to the ideal point of the median voter (Downs, 1956). In multi dimensional environments the picture is complex. Depending on the distribution of voters' ideal points converging to the center may prove costly to some parties, and more so to some parties than others. Charismatic (high valence) leader have more leverage than unpopular leaders to stray far from their immediate constituency to attract other segments of the electorate. Less charismatic leaders may concede to the other party to avoid embarrassing shows in the polls. Voters may care about the final outcome and may want to see their favorite party win but the two do not always go together. It may present a challenge precisely to the party's most loyal voters to cast their ballot in favor of their favorite party if their favorite party has strayed too far away from them. Party activists

² Schofield and Sened (2006) rely on much work by Norman Schofield(???)YEARS) and Schofield and Miller (2003) to demonstrate the relevance of their model to the Presidential System in the U.S. but the bulk of their work is mostly relevant to multiparty parliamentary systems.

³ Most of what follows is a free interpretation of the argument articulated comprehensively in Schofield and Sened (2006). We refrain from repeated references for ease of composition and to avoid cumbersome repetitiveness.

may feel even more strongly about such deviations yet parties depend on the activists' vigor and resources to do well in the polls. In two party systems one may object that there is only one winner and the winner takes all and can later do whatever his/ her heart desires. In multi party systems this may not be the case. Coalition politics is a complicated stage of the game in and of itself and voters may want to cast their votes to smaller parties that more closely reflect their true preferences in the hope that these smaller parties may either play an important role in future coalitions or affect the final outcomes in other ways. Large parties have the incentive to go to the center of the distribution but this incentive is mitigated by the pull of the voters, the activists and the extent to which the leader of the party prove himself or herself charismatic enough to secure the votes in spite of the visible deviation of the median voter from the center of the distribution of the party loyalists and potential voters.

In addition, in multi party systems smaller parties have a clear centrifugal tendency. It is in the extremes that they can connect with voters disenchanted with the bigger parties and Schofield and Sened (2006) clearly articulate and then corroborate how smaller parties may affect the set of the feasible final outcomes.

Voters' choices

It is by now a well documented fact that the single most powerful predictor of voters' choice at the polls is the Euclidean distance between the voters' ideological ideal point and the party they are considering casting their vote for. Part of this phenomenon is explained by the fact that other factors that determine voters' choice determine the ideal point of the voter as well. So the predictive power of the ideal point of the voter is inflated by other factors that affect the vote decision indirectly by determining the ideal point of the voter as well as the voter's ballot decision. But one should not underestimate the power of ideological voting that has been demonstrated to be significant in so many different studies and in Schofield and Sened (2006) for a multitude of data sets in a multitude of electoral campaigns. In this study we actually provide additional evidence to support the claim about the critical role of ideal points as the main determinants of voting behavior. In our study, like in previous studies, the voter's choice seems to be mostly determined by the Euclidean distance between the voter's ideal point and the party s/he considers to cast the ballot for.

Coalition formation

The most elegant paper on the dynamics of coalition formation is due to Tasos Kalandrakis (nd) that will probably never be published because it builds on so many earlier efforts in this area of expertise. In his paper Kalandrakis fully characterizes what became the standard understanding of the coalition bargaining game in the discipline. Schofield and Sened (2006) distinguish between two generic structures in parliament. In one there is a core, or, more commonly referred to, 'dominant' party. This party has the obvious advantage over other parties that it is most likely to implement its ideal point that is expected to be the final policy outcome of the game since it is the 'core' of parliament. Other parties have to pay varying costs depending on how far they deviate from the policy position they declared as their policy ideal point in the first stage of the electoral

campaign. Such deviation are costly either because they may lead voters and activists to leave the party or because they frustrate voters and activist and lead to disenchantments and discontent. Either way, these costs are offset by government perquisites that are accrued to coalition members in the form of portfolios, lucrative government employment, budgets directly earmarked or potentially beneficial to their electorate and the like. A core party has the obvious advantage that its commitment to the policy outcome espoused by the coalition and likely to be implemented is costless to its leaders. This relative bargaining advantage guarantees that no coalition can form, in environment with a core party without the core party being in the government (Sened, 2006). These coalitions tend to group together the minimum number of coalition partners that view their participation in such coalition as the least costly compared to other parties and use this relative bargaining advantage to join the coalition for a 'lower price.'

When the core is empty, the same logic holds but in this case the relevant expected policy outcome may actually be a relatively large subset of the policy space. Parties presumably calculate the cost of joining the coalition on the basis of some loss function the support of which is the set of all possible, feasible outcomes of the game in terms of legislative policies that may ensue in parliament after the formation of the coalition (Sened, 1996). Again, the parties that can best 'live' with the cost associated with joining the coalition will form the expected *minimum winning coalition*.

Which brings us to the topic of this paper: Legislative outcomes: How do they look, where do we look for them and how can we make sense of them?

Legislative Outcomes

In the Schofield and Sened (2006) framework there are actually two distinctive states of affairs that determine the nature of final legislative outcomes. Each parliament has a structure that is determined by the elections that gave it life. Depending on the exact location of the different positions declared by the parties during the electoral campaign and the weight of those parties as determined by the proportion of seats they secured in the election to the relevant parliament, the structure of parliament can either have a structurally stable core (Schofield 1985) or not.

If parliament is endowed with a structurally stable core, the situation is not a whole lot different from the uni-dimensional case, where the unique expected legislative outcome is the position of the median legislator. If the core is not empty, then the unique expected position of the legislative process is the ideal position of the core party. Schofield (1993) has proven that this party must be the *strongest* party which entails some specific conditions of central location in the policy space coupled with a considerable size.⁴

⁴ Shepsle (1979) and Laver and Shepsle (1992, 1996) make an appealing argument in support of the competing solution concept of a *structurally induced equilibrium*. According to this argument, committees in congress and portfolios in coalition government imply important agenda control capacities that impose an equilibrium in the multi-dimensional environment, arrived at by the power of portfolio holder or the committee median on the different single dimensions controlled by the relevant committee or government department. This may very well be the case but we cannot provide, at this point, a critical test between the Schofield and Sened (2006) argument and the Laver and Shepsle (1996) argument and make a somewhat arbitrary choice to follow

When the core is empty, a subset of the policy space provides the support for some probability distribution over expected feasible outcomes. Schofield and Sened (2006) suggested the ‘Heart’ (Schofield 1996) as the solution concept best suited to determine this support. Unfortunately, the ‘Heart’ has defied precise computation to this point. The ‘uncovered set’ (Miller, 1980, McKelvey, 1986) is a viable alternative that we use in this paper, mostly because Bianco, Jeliaskov and Sened (2004) provided the computational algorithm that allows us to actually compute, with relatively high resolution, the location, shape and size of the uncovered set.⁵ The uncovered set has the additional advantage that lab experiments conducted by Bianco et al (2006, 2007) have demonstrated its remarkable potential as a predictive solution concept.

4. The empirical picture

How can we possibly bring, empirical evidence to support the theory traced above. As a general rule, the frequentist approach follows a Popperian philosophy of science, based on the notion that we cannot prove anything but if we can reject a hypothesis with enough empirical evidence we can conclude that this hypothesis is wrong. Thus, the frequentist approach is to state some null hypothesis and reject it as a way of providing support for the alternative hypothesis. Popper himself would object that rejecting a null hypothesis does not prove anything about any alternative hypothesis, but it is well known (Lakatos, 1976) that the Popperian approach is flawed in many other ways.

The issue of how to provide empirical support to theoretical models like the one suggested above is very deep. In somewhat superficial way we would only note the most obvious point that mathematically derived models are true by the nature of their mathematical derivation and need no empirical support. Further more, no amount of empirical support can ever prove them wrong. So the very notion of the null hypothesis when it comes to mathematically derived theoretical models is misleading.

So how does one provide empirical evidence to support purely mathematical theories without resorting to the misleading concept of null hypotheses? What follows is a demonstration that such an enterprise is possible. At no point throughout our exposition do we propose a hypothesis or make any effort to reject any null hypothesis. But the picture of reality we submit provides a compelling evidence to support the theoretical model briefly traced above and further discussed below.

the Schofield and Sened (2006) model for the sake of this paper. It is important to recognize, however, that these are competing arguments. In Laver and Shepsle (1992, 1996) medians of committees and portfolio holders determine the final legislative outcome. In Schofield and Sened (2006) they play no role. In the end, the core party implements its position and if there is no core party the expected outcome of the game is some distribution the support of which is the so called ‘Heart’ (Schofield 1993b, Austen-Smith, 1996). The structurally induced equilibrium suggested by Shepsle (1979) always exist so in that framework of analysis the structurally induced equilibrium is the unique prediction regarding the final outcome of the legislative stage of the game. Work currently under way by Jeong (2007) Miller and Sened, will soon provide a critical test to adjudicate between these two competing models.

⁵ The Heart and the Uncovered Set are two distinct, though closely related solution concepts. It is known by now that neither is the subset of the other. For two discussions see Austen-Smith (1996) and Schofield (1999)

Voters' distributions and party positioning

We have data on five consecutive electoral campaigns in Israel. The estimated distribution of the ideal points of the voters is based on a longitudinal study conducted for the last three decades by Asher Arian and Michal Shamir (1990, 1995, 1999, 2002). After every electoral campaign, immediately before or after voters go to the polls, Arian and Shamir (1990, 1995, 1999, 2002) conduct a representative survey of attitudes of the Israeli electorate. We have been analyzing this data for the last decade at some length and depth. While some of the results that appear here appeared in Schofield and Sened (2006) all of the analysis for this paper was redone from scratch from the Arian and Shamir (1990, 1995, 1999, 2002) raw data sets⁶. If one compares the results of the three electoral campaigns with the results published in Schofield and Sened (2006: 98-100) it is easy to find some significant differences in the results due mostly to improved technology and methodology used in this study.

The estimates for the party positions were drawn as follows. For each electoral campaign we chose around 30 recognized experts of Israeli politics and asked them to fill the questioners repeatedly thinking of themselves as the leaders of the different political parties that gained access, in seats, to the Knesset -- the Israeli Parliament. We then estimated the ideal point of each party, as if it was one of our respondent for the survey, only that here we had around 30 respondents for the ideal point of each party that we then averaged out to get our estimated ideal point of the party.

Figures 1a-5a show distributions of voters' ideal points and estimated positions of competing parties for a five electoral campaigns in Israel. Figures 1b-5b provide the Nash-equilibrium positioning of the competing parties. To arrive at the Nash equilibria we simulate the voters in the exit poll surveys to vote for different parties while allowing parties to move around to improve vote shares. Based on our analysis of the voter's choice function, reported in the next section, we assume that voters care mostly about the Euclidean distance between themselves and the parties they consider voting for. We then use a hill climbing simulation⁷ that allows voters to repeatedly cast their votes and parties to repeatedly try incremental moves to improve vote shares. The process stops when no party can significantly increase its vote share by changing its location in the virtual political space that matters according to our initial analysis of the data.

A simple visual inspection of figures 1-5 lands strong support to the assumption that parties mostly maximize vote shares. This is a clear illustration of our 'picture theory of science.' We have a relatively high resolution descriptive data. We assume vote shares maximization by parties and 'Euclidean voting' by voters and find a commonality between the theoretical picture produced on the basis of a mathematical model of party behavior and actual behavior as estimated by our experts on the basis of available data.

⁶ We did this because it is important to reproduce results every once in a while and because some of the details of the analysis, done over the years by different students and collaborators were lost.

⁷ The simulation package was originally programmed by Yanai Sened and can be obtained from him upon request.

Figure 1a: Party Position and Sample Voter Distribution at the 95, 75, 50 and 10 percent levels, in the Israeli Kneset of 1988.

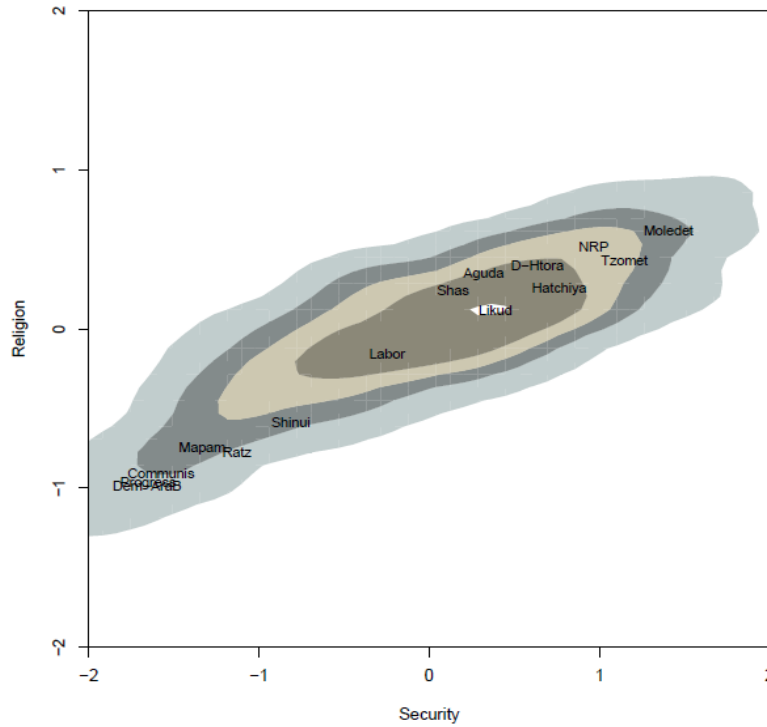
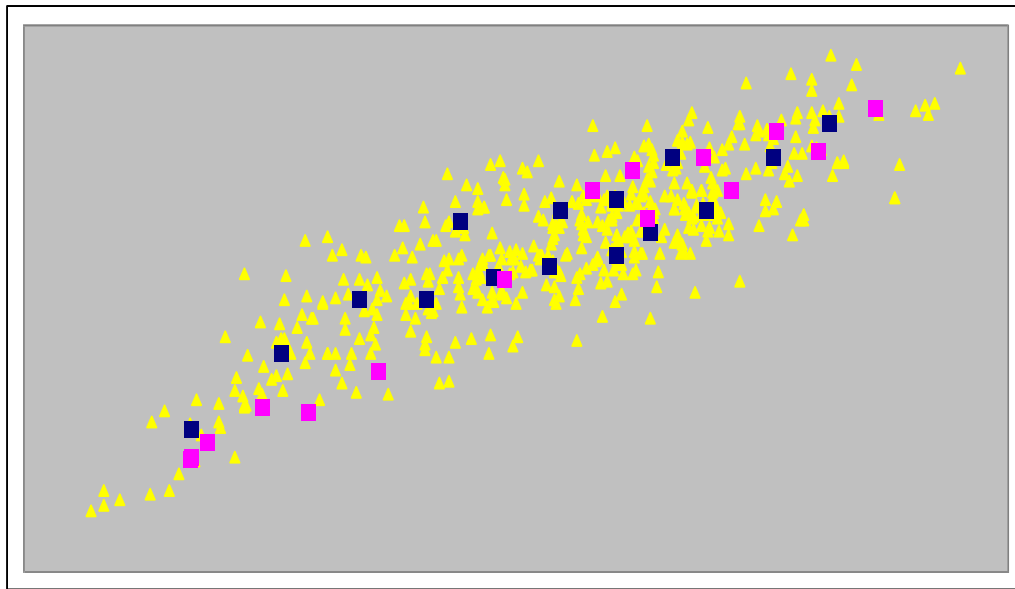


Figure 1b: Estimated Ideal Points of Voters (in Yellow) and Party positions (in pink), and Simulated⁸ party positions (in blue) in the Israeli Elections and Parliament of 1988.



⁸ These games all have multiple equilibria. We report one equilibrium for each electoral campaign, pretty much at random. Additional equilibrium configurations can be obtained upon request.

Figure 2a: Party Position and Sample Voter Distribution at the 95, 75, 50 and 10 percent levels, in the Israeli Knesset of 1992.

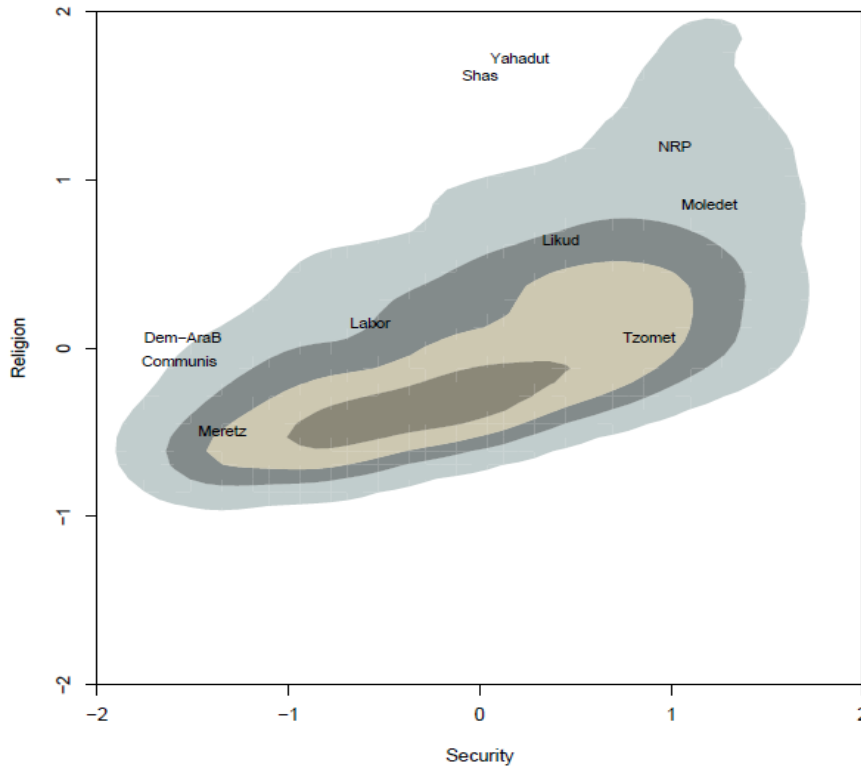


Figure 2b: Estimated Ideal Points of Voters (in Yellow) and Party positions (in pink), and Simulated party positions (in blue) in the Israeli Elections and Parliament of 1992.

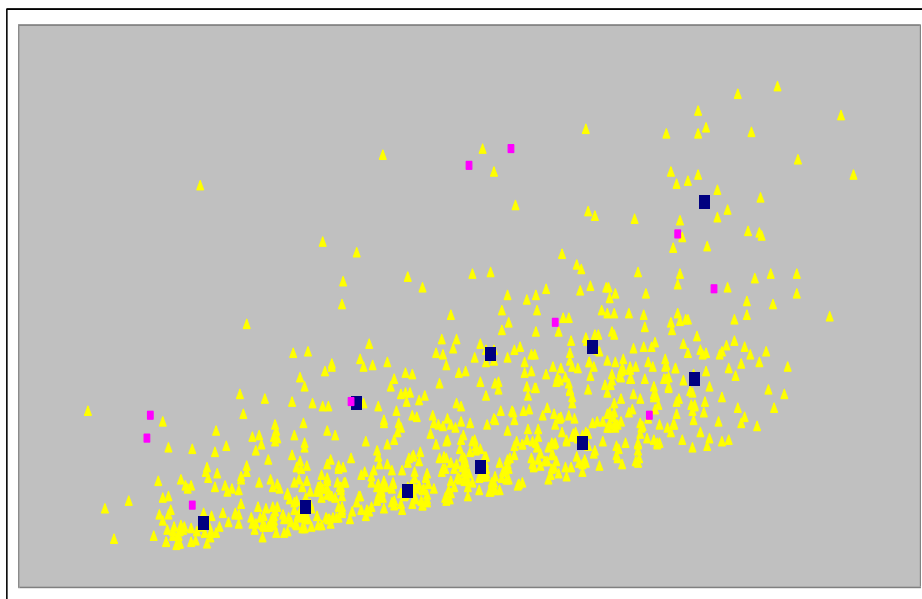


Figure 3a: Party Position and Sample Voter Distribution at the 95, 75, 50 and 10 percent levels, in the Israeli Knesset of 1996.

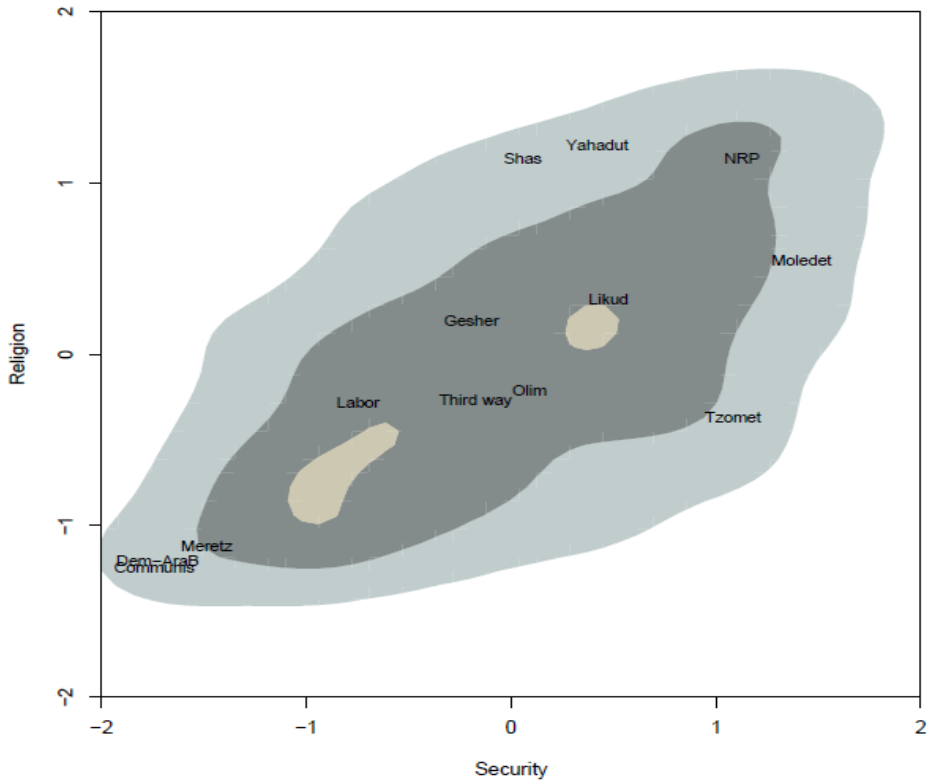


Figure 3b: Estimated Ideal Points of Voters (in Yellow) Party positions (in pink), and Simulated party positions (in blue) in the Israeli Elections and Parliament of 1996.

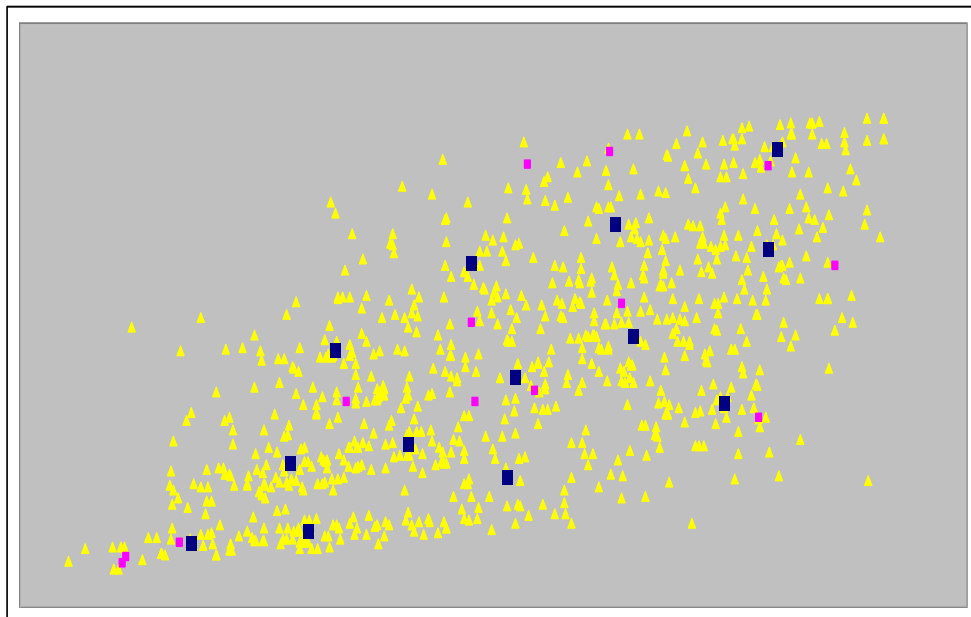


Figure 4a: Party Position and Sample Voter Distribution at the 95, 75, 50 and 10 percent levels, in the Israeli Knesset of 1999.

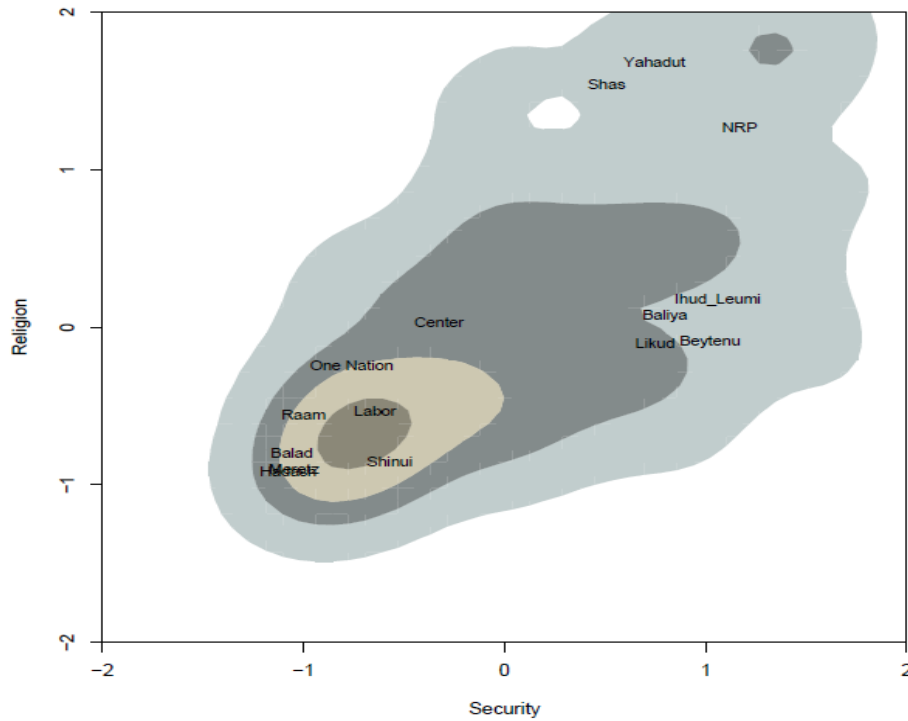


Figure 4b: Estimated Ideal Points of Voters (in Yellow) and Party positions (in pink), and Simulated party positions (in blue) in the Israeli Elections and Parliament of 1999.

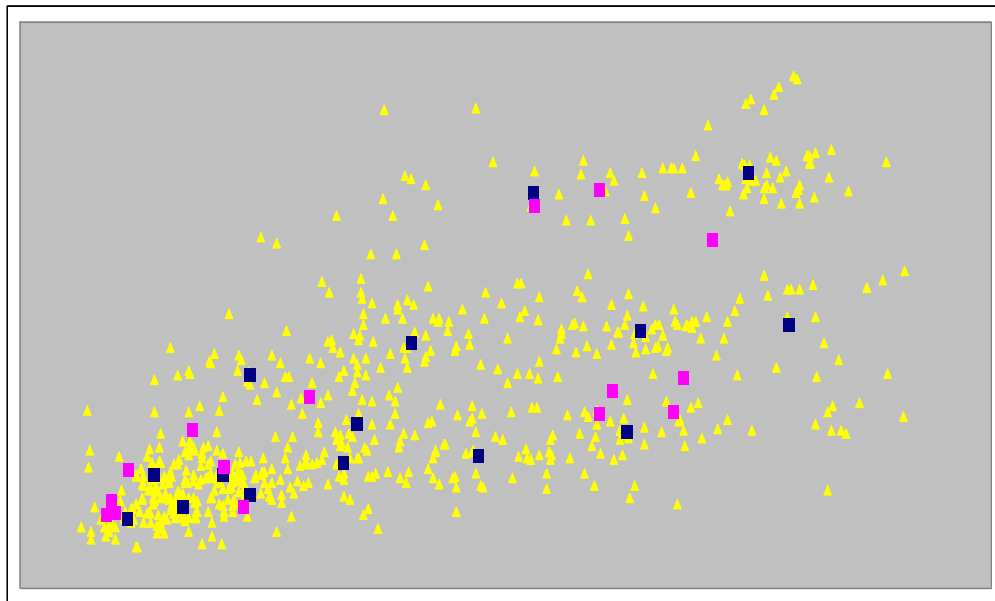


Figure 5a: Party Position and Sample Voter Distribution at the 95, 75, 50 and 10 percent levels, in the Israeli Knesset of 2003.⁹

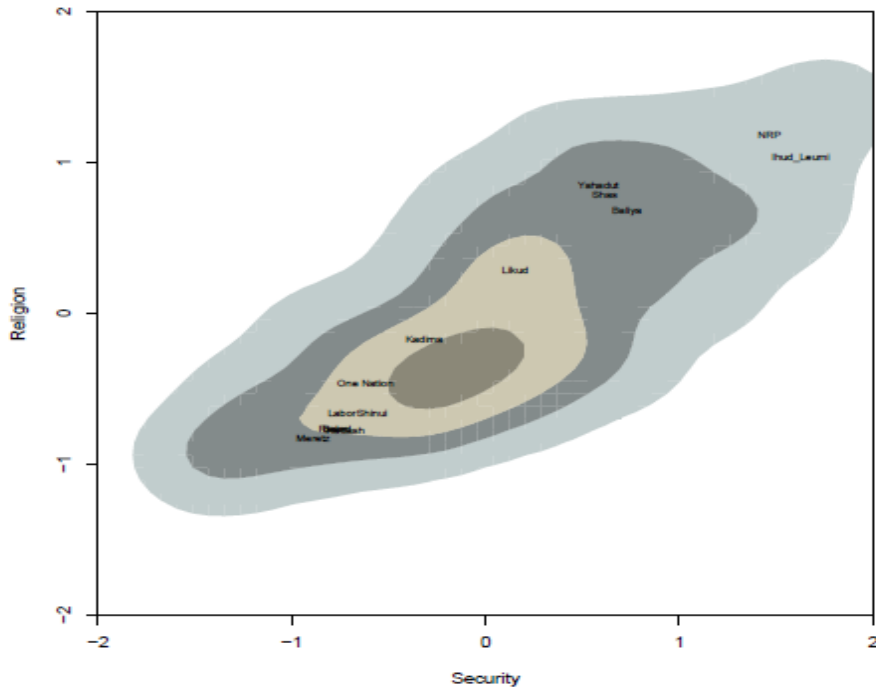
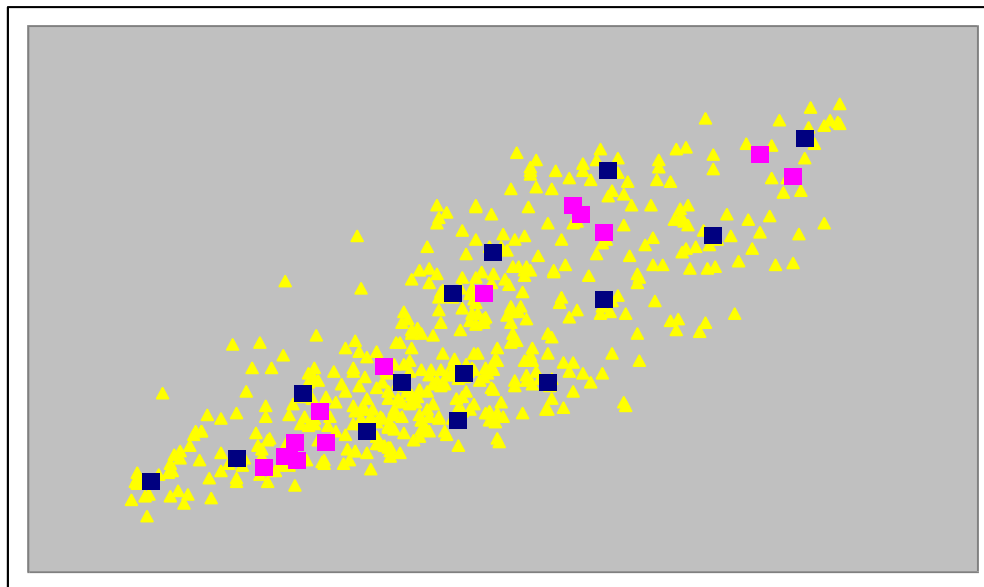


Figure 5b: Estimated Ideal Points of Voters (in Yellow) and Party positions (in pink), and simulated party positions (in blue) in the Israeli Elections and Parliament of 2003.



⁹ Kadima did not compete in the 2003 election but the experts were asked to complete the surveys for Kadima so that we have this location for further reference later in the paper.

Two observations that are becoming more and more apparent from analyses of this type previously and here are worth mentioning. These figures clearly illustrate that there is a lot of repositioning going on between elections. First, there is the fact that parties reposition themselves towards each and every electoral campaign. Second it is clear that voters are just as volatile.

The fact that voters reposition themselves in the virtual space of politics shows their remarkable ability to adjust to changing circumstance or simply quite a bit of volatility in how voters express and understand their political views. One needs to be careful on how to interpret these figures. This is not panel data and the underlying metrics that define the virtual political space change from election to election. However, since all the figures are reported in terms of standard deviation from the mean of the distribution, the fact that the shape of the distribution changes is significant. If the only thing that changed were the axes of the ellipse shaped voter distribution we could attribute the changes to the underlying survey questions or changing emphases. But the considerable variance of where the voters stand vis-a-vis the mean must result from changing attitudes and preferences. Changing preferences may not surprise political scientists as much as they tend to surprise economists, but the rather powerful swings of where the peak of the voter distributions are, necessitates some further reflection even on behalf of political scientists who are used to think of voters as moving targets in terms of ideal points.

The repositioning of Israeli parties poses some serious questions for the common methodologies used by Roll-Call data specialists as well but these questions are not new and have been discussed in the literature quite often. Either way, neither voters nor party volatility are the subject of this paper so we just make observations and call for further research rather than make them a central theme in our investigation here.

In the next subsection, we conclude our empirical investigation, reporting the Bayesian analysis of the voting behavior. Again, this type of analysis has been done in the past,¹⁰ we add newly gathered, original, data and improved methodology, but the contribution of the next subsection is mostly to report our findings and detailed analysis that underlies the more novel part of our analysis to come in section five below. In subsection 4.3 we briefly discuss coalition formation. Here again, some of this was reported earlier but it is useful to add some descriptive review to emphasize that current coalition theory seems to explain coalition formation in these environments rather well. The novel contribution that we submit in this paper appears in section five where we use all of this analysis to begin and address issues of legislative outcomes that were rarely addressed before. Besides the new road that our research proposes for the field of legislative politics, it has some serious consequences for our assessment of the extent to which legislative outcomes ‘represent’ in any meaningful way, the ‘will of the electorate.’ But before we go there, we have some basic empirical findings to report on the voter’s choice.

¹⁰ This analysis was originally laid out by Kevin Quinn, Andrew D. Martin and Andrew Whitford (1999). It has since been improved and updated with current technology and methodology. The results reported here are freshly reanalyzed for the purpose of this paper alone. All errors and mistakes are entirely our own.

The Voters' Choice

Five decades ago, the authors of *The American Voter* (1960) concluded that the American voter had little understanding of the campaign issues and voted mostly as an automaton mimicking years of socialization by parents, teachers and close friends. The results we report below suggest that at least the Israeli voter is the exact opposite. For all we can tell, the Israeli voter votes very precisely based on the Euclidean distance of the virtual political space in which s/he and parties position themselves on the eve of the election. While some of these results were reported in Schofield and Sened (2006) and in publications that preceded this work, the results here conclude a decade of empirical research summarized in five easy to read and simple to interpret tables (1 through 5), all drawn using state of the art Bayesian methodology. These results provide some important marginal improvement over the results previously reported. They also drive two very important conclusions home that were not emphasized before. First, these models do a remarkable job at explaining the voter's choice. Second, almost the entire causal explanation rest on one and only one variable, the Euclidian spatial distance between the voters' ideal point and the independently estimated, by independent experts, political declared position of the parties.

The success of these models in explaining the voter's choice must be understood in the context in which this data is collected.¹¹ In each electoral campaign under scrutiny here, the number of parties competing is at least twenty, of which fifteen or so are serious enough to gain enough votes to secure seats in the ensuing parliament. Those electoral campaigns are usually relatively short lived and only last between one and two month, a lot shorter than the usual, not to mention the current U.S. presidential campaigns. The fact that these models predict around 65%, on average (with a much better result for 1996 and much weaker result for 2003), of the voters' choices correctly is phenomenal in terms of predictability of political events. Tables 1-5 are self explanatory.

Some would argue that these models, based on repeated sampling, structurally over report their predictive power. This is a valid criticism. But there is another face to the same coin. If the repeated sampling explains some of the remarkable predictive power of these models, it certainly does not explain, why the only variable that comes out consistently and repeatedly as valid and reliable, is the ideological distance between the voter and the party s/he is considering to cast a ballot for. With all the rich literature on the determinants of voting behavior, this is a remarkable result. The fact that we have completely redone the analysis from the raw data and pretty much got the same results for 1988, 1992 and 1996 as Schofield and Sened (2006: 98-100) and our new findings for 1999 and 2003 add additional credibility to the statistical models used.

¹¹ Schofield and Sened (2006) reported similar results on three out of the five cases reported here. The results reported here are slightly better due to improved technology and better methodological tools. More importantly, they emphasize the role of the intercepts as evidence for the importance of valance in the strategic calculation of party leaders in their decision to place themselves in those virtual political spaces. Thus, the remarkable success of these models at predicting the voters' choice and explaining them with virtually one explanatory variable, namely the Euclidean distance between voters and parties they need to choose from at every such electoral campaign, was 'lost in translation.'

Table 1: Multinomial Logit analysis of the Israeli voter's choice in 1988.

Parameter	Party	Posterior	95% Credible Interval	
		Mean	Lower bound	Upper bound
Spatial Distance		-1.312	-1.537	-1.102
Constant	Shas	-7.548	-12.831	-2.431
	Likud	1.639	-1.916	4.850
	Labor	-0.859	-4.626	2.323
	Tzomet	-2.168	-7.265	2.885
	NRP	-4.714	-10.157	0.684
	Ratz	-0.371	-4.992	3.674
Ashkenazi	Shas	-0.330	-2.432	1.802
	Likud	-1.187	-2.612	0.168
	Labor	-0.305	-1.722	1.141
	Tzomet	-0.366	-2.777	1.889
	NRP	-0.108	-2.731	2.402
	Ratz	-1.737	-3.365	0.025
Sephardic	Shas	0.046	-1.857	1.972
	Likud	0.199	-1.043	1.214
	Labor	0.233	-1.001	1.439
	Tzomet	0.731	-1.070	2.682
	NRP	0.266	-1.756	2.373
	Ratz	0.108	-1.571	1.789
Age	Shas	0.088	0.029	0.151
	Likud	0.070	0.023	0.124
	Labor	0.087	0.040	0.140
	Tzomet	0.032	-0.041	0.102
	NRP	-0.008	-0.098	0.079
	Ratz	0.055	-0.001	0.113
Education	Shas	-0.042	-0.336	0.271
	Likud	-0.094	-0.305	0.145
	Labor	0.018	-0.205	0.273
	Tzomet	0.054	-0.286	0.407
	NRP	0.040	-0.278	0.414
	Ratz	0.008	-0.296	0.304
Religious Observance	Shas	2.460	1.418	3.572
	Likud	-0.150	-0.710	0.483
	Labor	-0.562	-1.232	0.143
	Tzomet	-0.056	-0.942	0.770
	NRP	2.175	1.216	3.317
	Ratz	-0.797	-1.764	0.127
Correctly Predicted (%)	Thia	3.69	0.00	13.64
	Shas	30.09	5.56	55.56
	Likud	88.00	83.27	92.43
	Labor	58.86	49.31	68.06
	Tzomet	0.00	0.00	0.00
	NRP	25.65	6.67	46.67
	Ratz	50.18	35.71	61.90
Entire Model		66.69	64.55	68.51
MCMC Iterations		60000		
Burn-in		10000		
MCMC sample size		1000		
N		505		

Table 2: Multinomial Logit analysis of the Israeli voter's choice in 1992.

Parameter	Party	Posterior	95% Credible Interval	
		Mean	Lower	Upper
Spatial Distance		-1.259	-1.400	-1.115
Constant	Shas	-6.200	-10.537	-2.217
	Likud	2.124	0.291	3.859
	Labor	0.347	-1.511	2.119
	Meretz	-0.470	-2.814	1.912
	NRP	-0.648	-3.672	2.138
	Moledet	-1.178	-3.713	1.312
Ashkenazi	Shas	2.113	-0.275	5.331
	Likud	0.173	-0.652	0.977
	Labor	0.368	-0.401	1.192
	Meretz	1.167	0.040	2.268
	NRP	0.987	-0.296	2.363
	Moledet	0.121	-1.200	1.513
Sephardic	Shas	2.706	0.461	5.724
	Likud	0.608	-0.034	1.267
	Labor	0.145	-0.623	0.948
	Meretz	0.356	-0.793	1.515
	NRP	-0.561	-1.733	0.606
	Moledet	0.441	-0.555	1.431
Age	Shas	0.034	-0.008	0.077
	Likud	0.040	0.016	0.067
	Labor	0.063	0.036	0.090
	Meretz	0.019	-0.014	0.051
	NRP	0.036	-0.002	0.073
	Moledet	0.033	-0.006	0.069
Education	Shas	0.067	-0.113	0.244
	Likud	-0.214	-0.328	-0.089
	Labor	-0.094	-0.208	0.030
	Meretz	-0.030	-0.184	0.102
	NRP	-0.183	-0.359	-0.001
	Moledet	-0.029	-0.206	0.138
Religious Observance	Shas	1.637	0.921	2.411
	Likud	0.211	-0.114	0.566
	Labor	-0.321	-0.764	0.093
	Meretz	-0.494	-1.163	0.067
	NRP	1.157	0.569	1.744
	Moledet	0.104	-0.385	0.563
Correctly Predicted (%)	Shas	47.26	35.71	64.29
	Likud	73.95	68.22	79.66
	Labor	77.52	72.65	82.01
	Meretz	51.17	39.76	61.29
	NRP	24.60	11.11	38.89
	Moledet	3.44	0.00	11.43
	Tzomet	26.56	12.00	38.67
Entire Model		61.56	59.92	63.00
MCMC Iterations		60000		
Burn-in		10000		
MCMC sample size		1000		
N		781		

Table 3: Multinomial Logit analysis of the Israeli voter's choice in 1996.

Parameter	Party	Posterior	95% Credible Interval	
		Mean	Lower	Upper
Spatial Distance		-1.095	-1.246	-0.956
Constant	Shas	-1.993	-6.455	2.649
	Likud	0.671	-1.454	2.849
	Labor	0.289	-1.547	2.131
	NRP	-10.216	-14.053	-6.238
	Moledet	-3.502	-7.414	0.479
	III Way	-0.291	-3.715	3.434
Ashkenazi	Shas	-0.089	-1.896	1.730
	Likud	-0.616	-1.564	0.272
	Labor	-0.241	-0.997	0.529
	NRP	1.054	-0.293	2.414
	Moledet	0.817	-0.718	2.276
	III Way	-0.084	-1.543	1.213
Age	Shas	-0.015	-0.069	0.034
	Likud	0.021	-0.008	0.050
	Labor	0.033	0.007	0.058
	NRP	0.031	-0.012	0.071
	Moledet	0.018	-0.026	0.058
	III Way	-0.044	-0.107	0.009
Education	Shas	-0.353	-0.654	-0.078
	Likud	-0.042	-0.179	0.090
	Labor	-0.011	-0.127	0.100
	NRP	0.363	0.112	0.611
	Moledet	0.047	-0.208	0.319
	III Way	-0.049	-0.289	0.193
Religious Observance	Shas	3.259	2.102	4.591
	Likud	1.077	0.447	1.835
	Labor	0.763	0.152	1.450
	NRP	2.445	1.582	3.375
	Moledet	1.060	0.109	2.004
	III Way	1.054	0.128	2.011
Correctly Predicted (%)	Shas	29.61	13.33	53.33
	Likud	84.29	81.60	87.42
	Labor	85.55	82.44	88.40
	NRP	45.11	30.77	58.97
	Moledet	0.56	0.00	6.25
	III Way	0.00	0.00	0.00
	Meretz	20.78	10.87	32.61
Entire Model		74.80	73.80	75.94
MCMC Iterations		60000		
Burn-in		10000		
MCMC sample size		1000		
N		794		

Table 4: Multinomial Logit analysis of the Israeli voter's choice in 1999.

Parameter	Party	Posterior Mean	95% Credible Interval	
			Lower	Upper
Spatial Distance		-0.933	-1.060	-0.807
Constant	Religious	2.246	-1.903	6.460
	Likud	3.614	1.002	6.237
	Labor	2.886	0.697	4.929
	NRP	-0.084	-3.186	3.031
	Arabs	12.597	-1.685	34.417
	Shinui	3.521	0.012	7.280
Age	Religious	0.049	0.014	0.083
	Likud	0.008	-0.015	0.031
	Labor	0.001	-0.017	0.021
	NRP	0.004	-0.024	0.031
	Arabs	-0.286	-0.721	-0.039
	Shinui	-0.046	-0.086	-0.012
Education	Religious	-0.455	-0.785	-0.156
	Likud	-0.161	-0.331	0.004
	Labor	-0.103	-0.232	0.034
	NRP	0.041	-0.164	0.242
	Arabs	-0.704	-2.183	0.337
	Shinui	-0.211	-0.478	0.031
Correctly Predicted (%)	Meretz	0.21	0.00	2.44
	Religious	44.98	27.59	55.17
	Likud	79.32	74.18	84.43
	Labor	87.06	85.12	88.84
	NRP	3.55	0.00	11.67
	Arabs	0.00	0.00	0.00
	Shinui	0.00	0.00	0.00
Entire Model		65.65	64.16	67.14
MCMC Iterations		60000		
Burn-in		10000		
MCMC sample size		1000		
N		639		

Table 5: Multinomial Logit analysis of the Israeli voter's choice in 2003.

Parameter	Party	Posterior Mean	95% Credible Interval	
			Lower	Upper
Spatial Distance		-0.756	-0.908	-0.613
Constant	Religious	4.022	0.507	7.699
	Likud	5.614	2.982	8.281
	Labor	2.002	-0.612	4.788
	NRP	0.725	-2.495	4.109
	Arabs	-2.653	-15.267	8.795
	Shinui	2.354	-0.165	5.136
Age	Religious	-0.037	-0.081	0.006
	Likud	0.015	-0.014	0.046
	Labor	0.036	0.006	0.067
	NRP	0.029	-0.006	0.067
	Arabs	-0.051	-0.279	0.107
	Shinui	-0.020	-0.053	0.012
Education	Religious	-0.186	-0.426	0.042
	Likud	-0.340	-0.506	-0.181
	Labor	-0.206	-0.368	-0.056
	NRP	-0.077	-0.292	0.125
	Arabs	-0.021	-0.731	0.588
	Shinui	-0.079	-0.246	0.075
Correctly Predicted (%)	Meretz	14.58	0.00	41.94
	Religious	13.71	0.00	40.00
	Likud	81.30	72.48	88.27
	Labor	43.43	30.30	59.09
	NRP	27.01	16.67	38.10
	Arabs	0.00	0.00	0.00
	Shinui	23.06	4.08	42.86
Entire Model		49.21	47.01	51.36
MCMC Iterations		25000		
Burn-in		5000		
MCMC sample size		1000		
N		466		

Coalition Formation

The evidence provided here is consistent with the existing state of the art theoretical model of coalition formation discussed earlier. After the 1988 elections coalitions formed and dismantled as there was no obvious set of parties to form a coalition. In 1992 Rabin's Labor party 'captured the core' of Parliament. Rabin formed a minimum

winning coalition that quickly turned into a minority coalition that governed stably and effectively until the assassination of Rabin in November 1995 and beyond until the 1996 election (Sened, 1996). In 1996 a coalition of right wing parties and religious parties formed as the data would suggest. After the 1999 election Labor formed a rather broad coalition with left and religious parties, yet this coalition started breaking down a year after, till finally Barak announced his resignation from prime ministership on December 9th 2000, which led to special elections for the prime minister (but not the Knesset) held on February 6th 2001. Sharon won the direct election for Prime minister and formed a national unity coalition. Labor withdrew from this coalition on November 2002, and Sharon decided to go to elections. Sharon first formed a relatively narrow center-right coalition after the 2003 general election. This coalition broke down gradually during the second half of 2004 in face of the disengagement plan. Therefore, a second coalition—a minimum winning center-left coalition—was formed (included Likud, labor and Yahadut-Hatorah). On August 2005 Sharon broke ranks with his own party and formed the new center party of Kadima with Shimon Peres, a legendary leader of Labor. Kadima won the 2006 election and ‘captured the core of parliament’ in spite of Sharon’s devastating stroke that left him in comma to this very day. His deputy, Ehud Ulmert, quickly formed a minimum winning coalition with Labor, Shas and the ‘party of the retirees’ that literally merged with Kadima. This coalition is well into its second year of existence in spite the failed second Lebanon war, three advanced corruption investigation ongoing against the Prime Minister (**is it 4 now?**) and a completely broken education system that has witnessed more than two months of partial strike, which meant that no schools or universities were working in Israel beyond some very minimal capacity. All of this and in spite of Mr. Ulmert getting lower approval rating than even President Bush in the U.S. **and parliament is not even thinking about a vote of no confidence, because, just like the theory suggests, there is no majority in parliament that would want to impeach the Prime Minister or even try a ‘constructive vote of no confidence.’** This is the case simply because Ulmert sits on the very core of the Israeli Parliament. **The only thing that Ulmert did, in light of these considerable external threats was to add another party to the coalition to get a slightly oversized coalition, as suggested by Riker (1962) in his original *Theory of Political Coalitions***

Itai: from April 1st, 2006 till April, 2008 The Knesset voted on 153 no confidence motions. Just for comparison in the 16th Knesset (all the Knesset, not just 2 years) this number was 156, and in the 15th Knesset, it was 129. So—the argument you present above is simply not correct.

It is difficult to assess with rigor the exact calculation that goes into the bargaining process of coalition formation in these multi party systems as different parties and different leaders assess differently the payoff tradeoff of policy positions and government perquisites. But studies that looked at the Israeli case and similar European cases clearly corroborate three general observations: (1) Stable (not transition) minority governments are usually explained by the existence of a major core party at the center of the distribution of party seat/location in Parliaments (Von-Roozendall, 1990; Sened, 1996). (2) Core parties always form the coalitions in the parliaments they ‘capture the core’ of.

(3) Formateurs of coalitions pay a lot less to their coalition partners when they are core parties as compared to cases where the core is empty (Nachmias and Sened 1999).

Since coalition formation is a relatively well understood phenomenon based on a rich theory coupled with considerable empirical corroboration, we will leave this at that. We got into this issue to begin with for two closely related reasons. First, given how well established it is, it is important to recognize the body of theory that successfully explains the dynamic of coalition formation, and for the sake of ‘construct validity,’ any analysis of legislative politics must check that it is consistent with this literature. Second, it is important to our own argument articulated below, that all the analysis that leads to it is consistent with what we know about these environments more generally. ‘Construct validity’ is an important aspect of scientific inquiry that is often left out of the picture. Here we wanted to make sure that our analysis and what we make of the five cases we study is consistent with the theoretical and empirical literature on the subject.

5. Legislative Outcomes

Whatever happened to legislative outcomes? Anyone who knows this literature well will soon come to the unavoidable conclusion: They fell off the cliff of mountains of research that never gets close to the most important element of legislative politics: *legislation*. This neglect seems to be the obvious by product of the limitations of the frequentist approach as such. Bills are unique. They address different policy domains in different points in time and they rarely repeat. So for every bill there is a unique observation and this, of course, prohibits a frequentist analysis of final bills. But there is also a theoretical lacuna that explains this neglect. The spatial theory of electoral and legislative competition (Austen Smith, 1983) predicts that at any legislative body characterized by a single dimensional political space, the median of the floor should prevail. But most scholars understand that legislative politics is never uni-dimensional. For the very least it is two dimensional as it is often portrayed, whether because this is what the data suggest as in our case here, for lack of better data or because policy spaces that are more than two dimensional pose theoretical challenges that are not yet fully understood.

So there it was: a simple ‘misfit.’ Spatial theory makes a clear prediction in uni-dimensional environment but uni-dimensional environments are not particularly useful in analyzing legislative environments that for whatever reason are usually perceived as two dimensional. In multi dimensional environment there are numerous competing solution concepts to explore the set of feasible outcomes but none of them was applicable until very recently. Among non-cooperative solution concepts, decades of experimental research led to the conclusion that these concepts simply do not fair very well in the lab and, therefore, it is hard to see how they would fair better in the much more complicated ‘real world’ environment. In the cooperative tradition there are three competing solution concept that have shown some promise. The ‘Structure Induced Equilibrium [SIE]’ (Shepsle, 1979, 1986), the Uncovered Set (Miller 1980, McKelvey, 1986) and the ‘Heart’ (Schofield, 1996; Austen-Smith, 1996).

The SIE suggests that gate keepers like legislative committees reduce the multi-dimensional space to uni—dimensional spaces controlled by the gate keepers who control the agenda. If we identify the medians of committees in the U.S. congress or ministers

who hold portfolios (Laver and Shepsle, 1992, 1996) in multi party systems we should be able, presumably, to calculate the ‘SIE’ and see if legislative outcomes conform to the theory. This notion was applied to real data with variable success (e.g. Laver and Shepsle, 1996). Part of the problem is that the multitude of ministries and committees associated with legislative politics makes the descriptive aspect of any such project immensely complicated due to the high dimensionality of the space that needs to go under scrutiny. Another issue is that in multi party parliamentary systems, it is not clear how useful, a statement that claims that it is all about ministerial gate keeping, can be for the understanding of legislative politics per se. It is also not clear what to do with the fact that cabinets usually use something close to unanimity rule when they make decisions and, when this is the case, it is always a question who’s preference we need to watch closely, those of the prime minister, the senior cabinet member of the relevant party or some second ranked minister who, through some good luck of the draw got to sit as the minister of this or another portfolio.

The Heart and the Uncovered set seem more applicable to legislative environments with weak committees and relatively strong parties as the case of Israel is, than the SIE. Unfortunately, until very recently neither of these concepts was readily computable. One of the obvious shortcomings of Schofield and Sened (2006) is that they chose the ‘Heart’ as their solution concept of choice but then did very little in terms of applying this concept and its consequences in the analysis of their data. Recently Bainco, Jeliakov and Sened (2004) introduced an algorithm that, for the first time, allows us to compute the uncovered set for any legislative body at any given time. In this section we highlight the potential use of this breakthrough in the study of legislative politics in general and the long overdue study of legislative outcomes in particular.

Cooperative game theory suggests that stable cores rarely exist in multi-dimensional majority rule games (McKelvey, 1976, 1979; Schofield, 1978; McKelvey and Schofield, 1987). The so-called Chaos Theorems, (McKelvey, 1976; Schofield, 1978; McKelvey, 1979; McKelvey and Schofield, 1987) state that majority-based decision making, unchecked by institutions, can go ‘from anywhere to anywhere,’ rendering the ultimate outcome of legislative action, absent institutional constraints, indeterminate.

Later work emphasized that if voters or legislator consider the ultimate consequences of their behavior, rather than choosing myopically between alternatives presented to them at each point, outcomes of social choice situations will lie in the *uncovered set* (Miller 1980; McKelvey 1986;). Furthermore, regardless of what ‘status quo point’ a voting process begins at, when decision-makers vote using majority rule, there exists a simple two-step agenda that yields some point in the *uncovered set* as its final outcome (Shepsle and Weingast 1984). Thus, supporters of outcomes in the uncovered set can secure these outcomes using relatively simple agendas and, moreover, defend them against attempts to overturn them by opponents who propose outcomes outside the uncovered set.

The significance of the *uncovered set* lies in its potential to specify the set of possible majority-rule voting outcomes in legislatures. The *uncovered set* captures the fundamental forces driving outcomes in the legislative process: legislators’ underlying policy preferences, their ability to foresee the consequences of their actions, and their ability to select agendas. Outcomes that lie outside the uncovered set are unlikely to be

considered by sophisticated decision-makers, who know that such proposals are unlikely to survive whatever voting procedures are used. Thus, if we know which outcomes are in the uncovered set, we know what is possible in a legislative setting – what might happen when proposals are submitted and voted on. A characterization of enactable outcomes in a legislative setting helps us, for the first time, address a fundamental issue in legislative studies that has long been neglected. In particular, what does the set of enactable outcomes look like? Is it large or small? Is it sensitive to small changes in the distribution of legislators’ ideal points? Is it at all sensitive to changes and swings of the electorate and who they elect to represent them in legislatures?

Definition of the uncovered set

Let N be the set of an odd number of n voters or legislators. For any agent, $i \in N$, preferences are defined by an *ideal point* ρ_i . Let x, y, z be elements of the set X of all possible outcomes. Assuming Euclidean preferences, a point x *beats* another point y by majority rule if it is closer than y to more than half of the ideal points. A point x is *covered* by y if y beats x and any point that beats y beats x . The uncovered set includes all points not covered by other points.

The attractiveness of the uncovered set as a solution concept lies in that if y covers x , y dominates x as an outcome of a majority-rule voting game (McKelvey, 1986; Ordeshook, 1986: 184-5) in as much as y defeats x , any outcome that ties y defeats or ties x and any outcome that defeats y also defeats x . Therefore, strategic legislators should eliminate covered points from voting agenda. This logic suggests that the enactable set that may be implemented by legislative bodies is restricted to the uncovered set.

To estimate the *uncovered set*, Bianco, Jeliaskov and Sened (2004) treat the policy space as a collection of discrete potential outcomes rather than as a continuous space. Thus, it only recovers an approximation of the actual uncovered set – an approximation that, as stated in Theorem 2 below, converges to the interior of the uncovered set as the resolution of the grid goes to infinity. For the cases discussed here, the ideal points and outcomes are located in a two-dimensional space. This approach follows McKelvey (1986. 27): “...proposition 4.1 gives a potential “brute force” [iterative search] method for computing [the uncovered set] up to any desired degree of accuracy” (See also Miller 1980: 93). In order to apply McKelvey’s intuition cited above, Bianco, Jeliaskov and Sened (2004) prove the following theorem:

Theorem 1: The above ascertained grid procedure to estimate the uncovered set converges to the interior of the uncovered set. If the uncovered set has a non empty interior, or is a union of sets, each of which has a non

empty interior, then the uncovered set estimated by an increasingly fine grids converges¹² to the true uncovered set.

Theorem 1 provides the theoretical asymptotic rationale to the grid estimation procedure, stating that in the limit, the uncovered set delineated by the grid procedure will converge to the continuous uncovered set. It should be emphasized that in the discrete case, the grid procedure is not an approximation but actually computes the exact uncovered set in the set of discrete points under investigation.¹³ Using a series of settings, Bianco, Jeliaskov and Sened (2004) show that the size, location and shape of the uncovered set varies considerably with relatively small changes in the preference profile of decision makers. Thus, contrary to the conventional wisdom, under most realistic conditions, small changes in preferences can lead to dramatic changes in the set of enactable outcomes, while in other cases the change is quite small.

The predictive power and thus the empirical relevance of the *uncovered set* as a solution concept was still remained to be seen. In two consecutive papers, Bianco, Miller, Lynch and Sened (2006, 2007) demonstrated the remarkable predictive power of the *uncovered set*. In the first paper, they revisited many reported experiments for which it was reasonable to estimate the uncovered set in the last three decades. In the second they report the results of hundreds of experimental sessions they ran on their own. In both efforts, the uncovered set proves to be a powerful tool to predict final outcomes in legislative like, majority rule, experimental settings.

Reality Check: Uncovering the relation between voters, legislative preferences and legislative outcomes.

We are now in a position to provide precise measures of the ‘will of the people’, the ‘will of parliaments’ and some precise measure of what legislative outcomes may look like. It is important to emphasize that the figures that follow delineate what is possible as opposed to what actually happens. We are still one step away from achieving that goal, but research suggests that this step is imminently approachable (Clinton and Meirowitz, 2003, 2004; Jeong 2008). For this paper we stop short of this final step that would require considerable further work and some data we do not have for the cases discussed.

Figures 6-10 report the uncovered sets of the sample of voters as a proxy for ‘what the people want,’ and the uncovered sets of the five Israeli Knesset sessions, given our

¹² Convergence is formally defined as follows: Let $V = \{V_1, V_2, \dots, V_w, \dots\}$ be an infinite series of grids with $\lim_{w \rightarrow \infty} r(V_w) \rightarrow 0$ and $\forall w \in N : V_w \subseteq V_{w+1}, \forall x \in V_w$ such that the set that covers x has an interior

$$\exists \delta \in N : k > \delta \Rightarrow (x \notin UC(X) \Rightarrow x \notin UC(V_k))$$

for any neighborhood of x , $A(x)$

$$\exists \delta > 0 : k > \delta \Rightarrow \exists y \in UC(V_k) \cap A(x)$$

i.e., for any x in the $UC(X)$ there exists a resolution that will depict a point as close to x as one would want as being in the uncovered set. Any point y not in the uncovered set, if it is covered by a set with a non empty interior, there exists a resolution that will eliminate it from the uncovered set obtained by the grid procedure (See technical appendices for details).

¹³ The original grid procedure took way too long and way too much computer time. Several procedures have been devised to alleviate the problem. The algorithm that is currently the most efficient and reliable and the one we use in this paper was done by Yanai Sened and can be obtained from him upon request.

estimates of the spatial locations of parties and their legislative seat weight as a proxy for ‘what the people get.’ It turns out that the variance among the five cases is far from trivial and indicative of some of the most fundamental realities of Israeli Politics in the past two decades.

Figure 6 depicts the case of 1988. The most important observation here is that contrary to common perception, the legislative body of 1988 introduced much uncertainty that was clearly felt in the short lived consecutive coalitions that followed. This situation is explained by the relatively large uncovered set that made coalition formation and even more so, coalition sustainability, almost impossible. This is in sharp contrast to the ‘will of the people’ that, for once, seem to have had a very good idea of what they wanted. This is a rare case in which the uncovered set in the population at large actually collapsed to the core point indicated in the Figure. It is interesting to highlight the fact that this situation lead to a major popular movement that blamed the political system of introducing the unnecessary uncertainty and instability. This ‘popular movement to change the political system’ as it was called, reached its ultimate goal when the next session of the Knesset that came to life in 1992 adopted some swift changes in the generic characteristics of the system, most notably, a direct ballot to elect the prime minister. Predictably (Nachmias and Sened, 1999), this institutional change caused nothing but havoc and was therefore revoked by Ariel Sharon’s government in 2001.

Figure 6: Estimated Voters (in blue) and Party Ideal Points (multicolor); Popular (red) and Legislative (clear blue) uncovered sets in the Israeli Knesset of 1988.

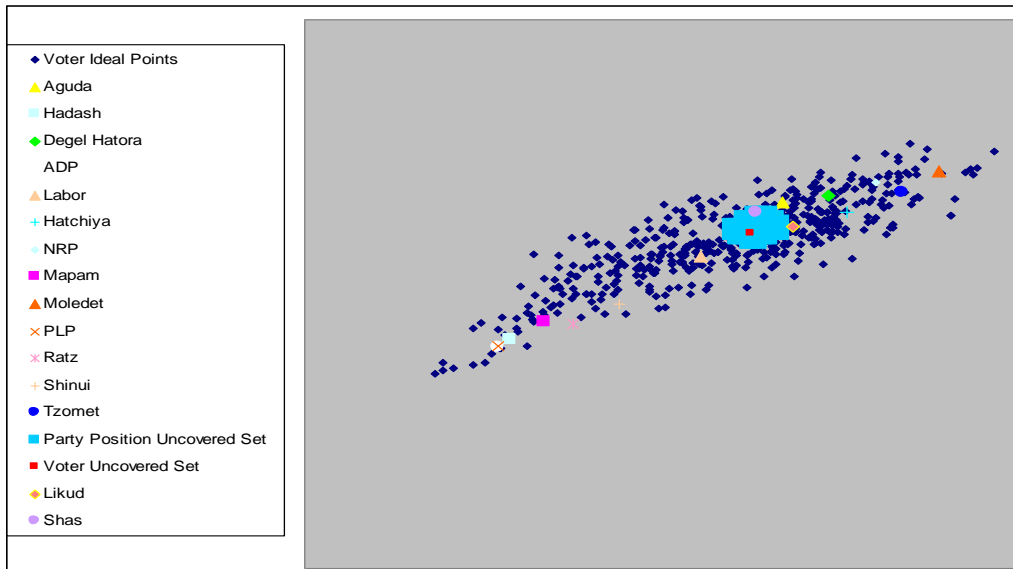
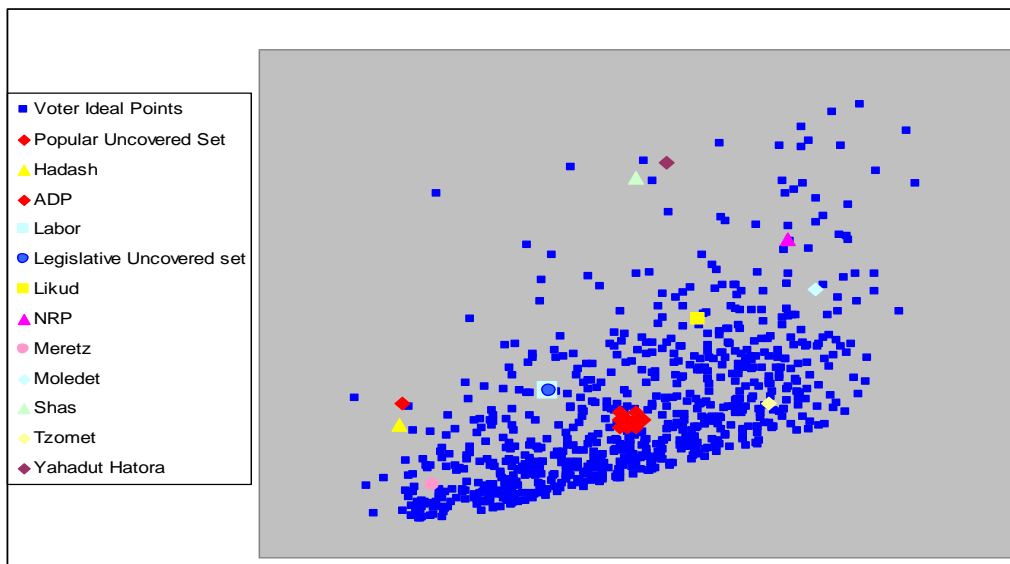


Figure 7: Estimated Voters (in blue) and Party Ideal Points (multicolor); Popular (red) and Legislative (clear blue) uncovered sets in the Israeli Knesset of 1992.



In 1992, the ‘will of the people’ is a little less clear as indicated by the popular uncovered set of some moderate size. The parliament, however, is characterized by a stable core at the ideal point of the Labor Party. These observations are consistent with significant and appreciated popular understanding of Israeli politics. After ‘capturing the core’ Rabin quickly formed a minimum winning coalition that within thirteen months turned into a minority government in control of 56 of the 120 seats of parliament. In spite of its minority status this was one of the most stable coalitions in the political history of Israel that introduced some remarkable policy initiative, the most famous of which is the very controversial ‘Oslo Peace Agreement’ that sled through parliaments virtually unopposed (Sened, 1996). **Itai: On Sep 21st, 1993, the government brings to the Knesset the principles agreement. The Knesset debate for 2 days, and on Sep. 23rs, 61 MKs vote in favor of the final decision, that is also a confidence vote in the government, and 50 MKs votes against, where 8 abstained. The ‘Kahir Agreement’ was brought before the Knesset on May 4th, 2004, and was passed by 58 MKs where 68 MKs are absent from the floor. Taba Agreement (Oslo 2) is introduced before the Knesset on October 5th, 1995. The agreement is ratified with 61 MKs voting for it, and 59 MKs voting against it. I am not sure this means that the agreement was unopposed.** Note, however, how far to the left (meaning territorial compromises) Rabin and the core of parliament is relative to the popular uncovered set. Israeli street scenes of this period consistently portrayed Rabin and his government as ‘leftist deviators.’ The final such street scene occurred on November 4th, 1995, and ended with the assassination of Itzhak Rabin. To this day, the assassin is hailed as a hero among significant segments of the Israeli electorate precisely as he is regarded as the person who single handedly stopped Rabin from moving forwards with further concessions.

The rising tensions within the Israeli society that led to the assassination of Rabin are visible in Figure 8 that depicts the ideal points of voters and parties in 1996. The figure

nicely depicts the polarization in the Israeli society that followed the signature of the Oslo accord in 1994.

Figure 8: Estimated Voters (in blue) and Party Ideal Points (multicolor); Popular (red) and Legislative (clear blue) uncovered sets in the Israeli Knesset of 1996.

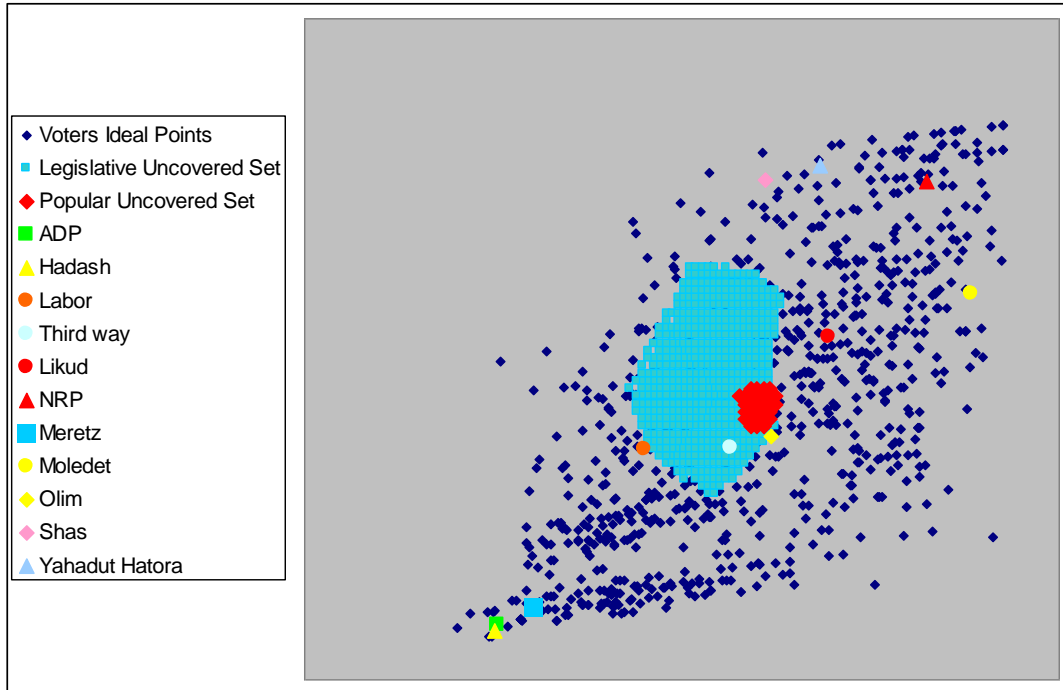
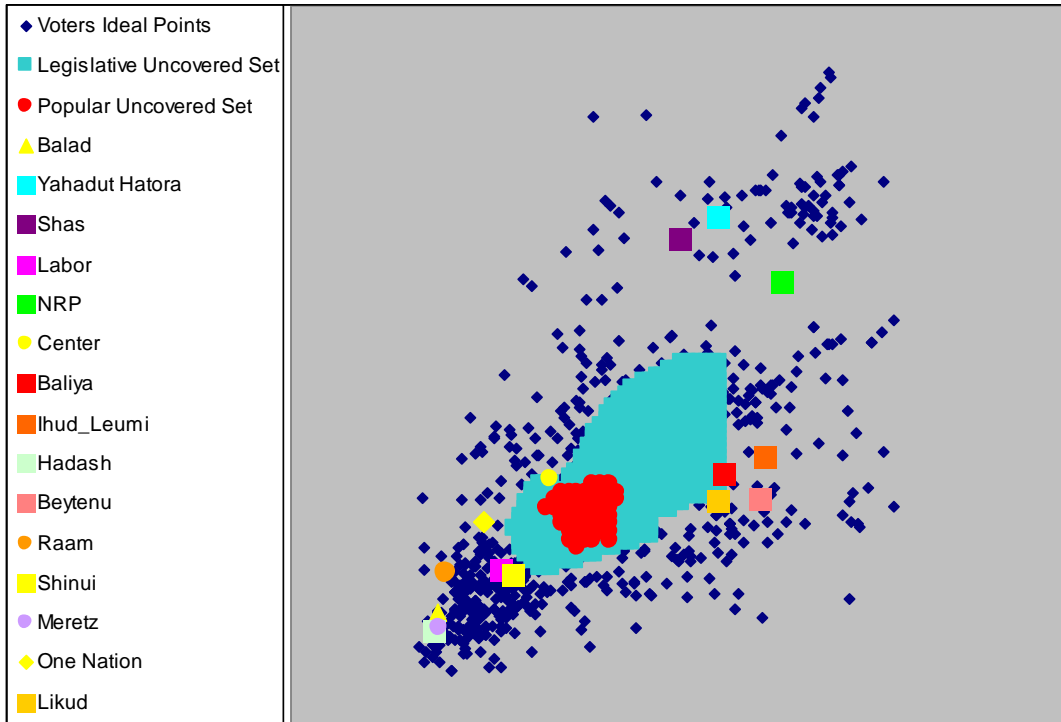


Figure 8, however, constitutes a genuine discovery that remained unknown until the current publication of this figure. While the public polarized considerably, this polarization did not reflect itself in the popular uncovered set, a proxy measure of the ‘public will.’ However, while politicians were very careful to veil their growing polarization, the uncovered set in Parliaments, literally exploded. This reality was soon to unveil itself in the growing tensions within parliament that eventually led to the only case of impeachment in the history of Israel (**why do you call it impeachment? They dissolved the Knesset as well**). In the first time in its history, two thirds of the members of parliament (all who lie to the left of the position of Likud) voted to depose Netanyahu as prime minister, adjourn the Knesset and call for the new election that followed in 1999, prematurely.

The results of the 1999 elections are depicted in Figure 9 below.

Figure 9: Estimated Voters (in blue) and Party Ideal Points (multicolor); Popular (red) and Legislative (clear blue) uncovered sets in the Israeli Knesset of 1999.



Figures 8 and 9 corroborate an important theoretical derivation made in the early 1990s by opponent of the institutional change that was adopted by the Israeli Parliament in 1992 and lead to the two ballot system that allowed the direct elections of the prime minister in a separate ballot. Opponents of the institutional change warned that the direct election of the prime minister will create a fragmented legislature that they speculated will be unmanageable. The derivation was made based on the analysis that if the prime minister is elected by direct ballot, voters will lose the incentive to vote for larger parties in the hope that their leaders become prime minister and allot their second ballot sincerely to their party of choice (Nachmias and Sened, 1999). At the time the present test of this theoretical claim was unavailable. But at the current state of the art, it is easy to see the effect of the institutional change on the legislative uncovered set and anticipate the more general case / claim, that the size of the uncovered set of a legislative body is a measure of the ability of this legislature to govern effectively.

The 1999 election brought Ehud Barak, Netanyahu's arch rival from the Labor party, to the seat of the Prime Minister, but Barak did not fair any better. Less than two years into his tenure, parliament decided to call for a new election for Prime Minister. To avoid the fate of his predecessor, Barak preempted and called for new elections for the prime minister before the vote took place in Parliament. This preemptive strike saved Barak from the humiliation but did not save his seat. He lost the election to Ariel Sharon who became the prime minister early in 2001. One of the first legislation to pass under the

leadership of Ariel Sharon was the abolition of the direct election to Prime Minister and the return to the old institutional regime. The expectation, from our perspective, would be that the uncovered set will be considerably reduced in the next election which will indicate a ‘return to normal’ legislative environment. This is what happens, as Figure 10 clearly indicates. Another observation regarding Figure 9 explains why Sharon fared better with parliament than his predecessor. The Likud estimated position falls at the middle of the legislative uncovered set even if at its low extremity. The position of Labor led by Barak was much more extreme relative to the legislative uncovered set. It leads us to believe that concessions on the floor were much easier for Sharon which explains why he dealt so much better with the tensions in parliament than Barak (**Once again, if having 2 differing coalitions is faring well—you are right. But, Sharon had to deal with a lot from a coalition perspective**).

Figure 10: Estimated Voters (in blue) and Party Ideal Points (multicolor); Popular (red) and Legislative (clear blue) uncovered sets in the Israeli Knesset of 2003.

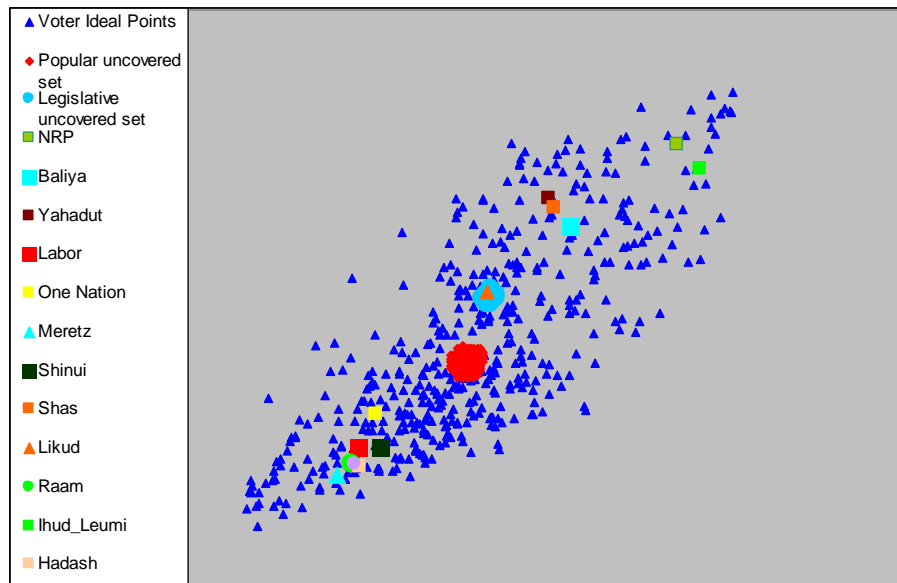
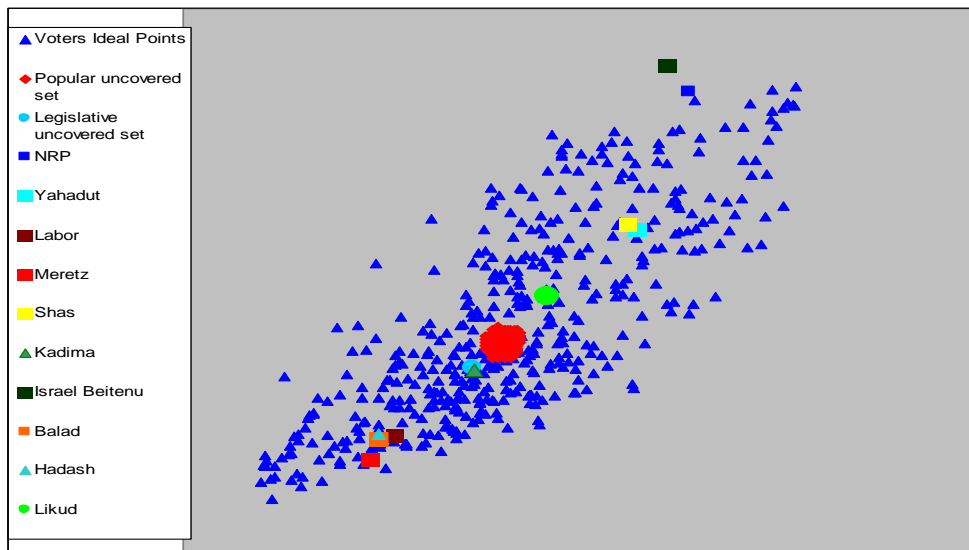


Figure 10 bares the theoretically expected consequences of the reversion to the one ballot in the Israeli election. The uncovered set shrank considerably which made, Sharon’s job at forming a minimum winning coalition much easier and his tenure started on the right foot. Interestingly enough, however, Sharon seems to have paid attention to something Rabin ignored at the time: ‘the will of the people’ was to his left. In spite of his relatively comfortable position as the leader of Likud whose declared position was estimated by our experts and methodology to be exactly at the middle of a relatively small legislative uncovered set, Sharon adopted a very controversial policy of pulling out of Gaza that reflects a position much more in line with the popular uncovered set than with the position of his party or the legislative uncovered set. As expected, he is quick to confront ardent opposition from within his party and comes close to being ousted by his own party. In response, Sharon calls for new election. Departing from his own party he forms, with the most senior leader of the left and for many years the leader of Labor, Shimon

Peres, the party of Kadima. To make sense of this move, we actually asked our experts to position Kadima in the 2003 space created by the analysis of the Arian and Shamir data set for 2003. Figure 11 places Kadima and all the other parties we have point estimates for who won seats in the 2006 election in electoral space of 2003. This, of course, is a stretch and should only be taken for what it is: a heuristic to trace Sharon's strategic maneuvering. The figure has no methodological validity whatsoever because it places parties of one statistical space in a completely different statistical space. To do this right we will wait for the release of the 2006 attitudinal survey by Shamir and Arian (1990, 1995, 1999, 2002) and recalculate the whole picture a new. We conjecture, however, that the picture is going to look a lot like Figure 11.

Figure 11: Estimated Voters (in blue) and Party Ideal Points (multicolor); Popular (red) and Legislative (clear blue) uncovered sets in the Israeli Knesset of 2003 adding Kadima into the picture.



As a mere heuristic Figure 11 is only here to demonstrate a political maneuvering with a clear objective: ‘capture the core of the legislature.’ By the end of the day, however, he seems to have over played his hand and landed to the left of our proxy of the ‘popular will.’ This could be the artifact of Sharon becoming ill and his substitute—Ulmert—not having the charisma or the military background Sharon had. Ulmert is also often accused of being to the left of his declared positions, in part because of well known wife and daughter who are both, notable left wing activists with human right organizations and other associations connected to the left. Whatever the case may be, Sharon was successful in leading the Kadima move to capture the core of the Israeli Parliament, which explains the stability of the current government in spite of all the adversity it is facing.

6. *Conclusions*

This paper took a long road to make a rather simple point: Scientific facts and observations about legislative politics have been neglected because of the over use of hypothesis testing in our discipline. In particular, a problematic neglect in the study of legislative outcomes needs to be addressed. This paper provides the first step in addressing this neglect by tracing a rigorous methodological path to uncover a precise predictive set that delineate what fundamental spatial theory of legislative behavior predicts to be the set of feasible outcomes given any result of any true or virtual election.

We demonstrate the usefulness of this exercise besides just providing a clear predictive set. We illustrate the ability of the uncovered set to explain legislative phenomena. In Israel the explosion of the uncovered set lead to legislative deadlock and stalemate. We speculate that part of the explanation of the current stalemate in the U.S. congress may be related to the recorded polarization of the U.S. political scene that, in theory, should result in larger congressional uncovered sets that make the exercise of legislative politics a whole lot harder to pursue.

We also illustrate how these measures can be useful in providing insights about well known political phenomena that are anxiously awaiting explanation such as, the previously difficult to explain, behavior of Sharon as a controversial political leader who pulled Israel out of the Gaza strip against the vocal opposition of his own party, the Likud, and his own reputation as a very hawkish figure in Israeli politics up to that point.

In this line of research what we believe to be the most urgent next step is to pursue the work began by Clinton and Meirowitz (2003, 2004) and recently pursued by Jeong (2008) that are working to allow us to locate legislative outcomes, as *enacted bills*, in the same space we have been so successful as of late in placing individual legislators and parties and in the same space that our work here can clearly identify the predictive set of legislative, feasible outcomes.

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