Social Cleavages among non-Arab Voters: A New Analysis[*]

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This article takes issue with the authoritative literature on the politics of social cleavages in Israel. It presents the results of three different types of empirical analysis of partisan choice among non-Arab voters in Israel.[1] Using methods and data that have rarely or never been exploited in Israel, as well as modified versions of the standard multivariate analysis of survey data, we offer an empirical reassessment of voter behavior that departs substantially from previous research by attributing a major role to class along with other social cleavages.

Based on a systematic comparison of election surveys carried out over the last three decades Michal Shamir and Asher Arian recently concluded that the distinction between secular and religious Jews is the predominant social division, followed by the ethnic split between Ashkenazim and Mizrachim. They described "the economic cleavage" as "weak to begin with" (Shamir and Arian 1999:270), and reported multiple regressions predicting the division of votes between the right and left bloc that yield insignificant results for socioeconomic indicators in most periods. While this particular article by Arian and Shamir is their latest and most comprehensive review of the evidence, it is representative in this respect of their decades of earlier work (beginning with Arian 1972) and with other research on electoral behavior in Israel (e.g. Diskin 1991).

The apparent irrelevance of class to voting flies in the face of both evidence of the persistence of class voting in other societies (Manza, Hout, and Brooks 1995) and everyday knowledge about Israel. Political commentators and rank-and-file citizens alike are well aware of the sharp polarization of voting between North and South Tel Aviv, between exclusive neighborhoods like Saviyyon and peripheral localities like Ofaqim—in short, between the well-to-do and the poor. True, this polarization encapsulates ethnic as well as class differences, but it is hard to believe that class voting per se is merely epiphenomenal.

It cannot be denied that most political parties in Israel fail to explicitly articulate class cleavages and that there is a marked absence of subjective class consciousness among voters. Still, as Brooks and Manza (1997) have pointed out, class voting and class politics are theoretically distinct and they need not (and in the American context do not) covary empirically. One obvious possibility is that in Israel class interests and cleavages have been submerged in—but not eliminated by—the politics of ethnicity, nationalism and collective identity. Historically Zionism and the national conflict, and related peculiarities of the Israeli labor movement, left a vacuum of political agents willing and able to speak for the disadvantaged in the language of class conflict. Despite this, the political alienation of the Mizrachim from the "labor establishment" and their

gravitation towards the hawkish right have sometimes been interpreted as reflecting a hidden agenda of class conflict (e.g. Swirski 1984; Farjoun 1983; Peled 1989).

This view has been challenged by scholars who interpret the ethnic vote as a reflection of status or identity politics more than class politics (Herzog 1985; Shapiro 1991). The Mizrachim are seen from this perspective as struggling for recognition as social and political equals to the Ashkenazi founders and their descendants. For instance, Shas proposes a vision of Israeli society and its collective identity that is more congenial to Mizrachi interests and values than the Ashkenazi model of a democratic secular state at peace with its neighbors and closely integrated into western culture and the liberalized world economy (Peled 1998). This article will not take up this controversy at length, although we will come back to it in the conclusion. Our central preoccupation in this paper is not interpretive but foundational: we seek to document the role of class in voting behavior relative to, and in conjunction with, other social cleavages.

Three different methodologies have been employed. First, in the conventional fashion we use survey data to connect the social characteristics of individual voters with their voting intentions. Next the paper offers an ecological analysis of aggregate data on the vote distributions and socioeconomic features of many hundreds of small geographical units. As an alternative to the survey approach, ecological analysis has a number of strengths and weaknesses. But we recommend it for an additional reason: since the variables of interest (including class) are actually situated at the local as well as the individual levels, local context can be expected to exert an independent influence on voter behavior. The third and final empirical section of the paper presents the first attempt that we are aware of to apply multilevel analysis—a tool for distinguishing between individual and contextual effects—to the study of voting in Israel. Because of data limitations the results of the multilevel analysis are empirically tenuous, despite their analytical power. Yet some of these results converge so strongly with the findings of the ecological and survey analyses that they provide an irresistible challenge to the neglect of class by students of political behavior in Israel.

Evidence from individual-level data

What can we learn from surveys of individual voters about the impact of ethnic, religious and class cleavages on voting? The most economical approach to the problem is the one adopted by Shamir and Arian (1999). They used multiple regression to estimate the "net" contribution of each variable of interest, with other known influences on voting also controlled. To evaluate this approach we took the principal model used by Shamir and Arian (1999:Panel 2 of Table 2, final column) to analyze the vote for Prime Minister in 1996 and applied it to their 1999 data. In addition to ethnicity, religion and SES (measured by housing density, education and family expenditure) this model taps demography (age and gender) and issue positions (on territorial compromise, capitalism vs. socialism, and religion and state). We echoed Shamir and Arian's preferred statistical technique (logistic regression) and most of their choices and definitions of variables.[2]

Insert Table 1 about here

The most striking result of this replication (Table 1) is the strength of the ethnic effect. (To aid interpretation for dichotomous variables we show not only logistic coefficients but also their exponents, which yield "odds ratios".) Mizrachim were roughly three times more likely than Ashkenazim to choose Netanyahu over Barak, with or without taking into account their other personal characteristics. In relation to class, two of the three SES variables have marginally significant effects in Model 2 but all three "wash out" when issue variables are added to the regression. The replication thus seems to confirm Arian and Shamir's skepticism regarding the relevance of class to voting in Israel.

We find these results unconvincing. The models assume that all of the independent variables are validly and accurately measured, and that they have linear (or more accurately, loglinear) effects none of which is conditional on other variables. An alternative approach is the use of less precise but more subtle exploratory methods resting on descriptive rather than inferential analysis. This approach is also much better equipped to handle peculiarities of the data. Inspection of the distributions of the SES indicators reveals that housing density and education both "bunch" at certain values.[3] In addition the most direct indicator of living standards, household expenditure, has questionable validity and reliability since it appears that many people do not know, or do not honestly report, how much their family spends in a month. The specific content of the question also gave rise to a worrying distortion in the results.[4]

These drawbacks of the available indicators of voters' class situation make it very problematic to treat them as continuous variables, and they virtually guarantee weak correlations with voting. However, reconstructing the indicators in categorical form with breakpoints specifically tailored to their idiosyncrasies yields a quite different picture of their association with political choice. As Table 2 reveals, crowded households, less than college education and low family expenditure were all powerfully associated in 1999 with strong support for Netanyahu, while the opposite conditions of economic advantage were linked to exceptional support for Barak. For both density and expenditure the gap between the polar categories in support for Netanyahu was very large, on the order of thirty percentage points.

Insert Table 2 about here

In principle these gross effects of class might turn out to be ephemeral once we take account of ethnicity and religiosity, the other noteworthy social bases of voting in Israel. To evaluate this possibility, and also to test for interactions between the effects of different cleavages, we graphically analyzed the association between different combinations of ethnicity, religiosity, and a composite measure of SES and the vote for Netanyahu versus Barak. The major results were as follows:

1. Irrespective of their ethnic or class background, members of the *dati* and *haredi* groups almost uniformly voted for Netanyahu.

2. The ethnic hierarchy in voting is clear (except for the heterogeneous "Sabra" category), with new immigrants from the former Soviet Union most strongly supporting Netanyahu and Ashkenazim most favorable to Barak. This broad hierarchy holds whatever further divisions are considered. However, Barak's Ashkenazi advantage was substantial only among secular voters.

3. With the exception of very religious voters, the impact of SES is pervasive. *Whether its effect is assessed in relation to religious practice, ethnicity or the two in combination, there is a clear and consistent decline in support for Netanyahu as SES increases.*

Thus, all three social cleavages independently affect voter choice. Ethnic voting cannot be reduced to the class (or religious) composition of different ethnic groups. But class also seems to matter in its own right. Still, perhaps its effect is spurious, and the effects of class are actually just proxying for the impact of issue effects on voting? We do not think so. It is more plausible to think of voters' issue positions as an intervening variable in the casual chain between the social milieu of the voter and his or her ballot. Moreover, the supposition that political attitudes play an

independent causal role in electoral behavior is problematic to begin with, insofar as attitudes are consequences as well as causes of partisanship.

The impact of economic interests on the choice between Netanyahu and Barak in 1999 provides a striking illustration of the reciprocal relationship between political opinions and partisan preference. Given widening income inequality and rising unemployment in Israel in recent years (Shalev 1999), one might have expected economically disadvantaged voters to see themselves as the victims of poor economic performance and misguided economic policy, and to therefore vote against the incumbent. In practice of course the disadvantaged tended to prefer Netanyahu to Barak. They also had a rosier, not more critical view of recent economic performance and of Netanyahu's ability to deal with the country's economic problems. This seems to confirm our view that to the extent that political attitudes are actually symptoms of partisan identification, it would be mistaken to use them as "controls" when trying to predict voter preferences.

Aggregate data analysis

Revisiting the survey data and setting aside some of the assumptions on which analysis of these data customarily rests, we have just seen that there are good reasons to challenge the view that class is immaterial to voter behavior in Israel. We move now to a higher level of analysis, the locality. At this level it would hardly be surprising to find strong class effects on voting in the 1999 (and previous) elections.[5] It is after all on the basis of comparisons of aggregate results from differentially located polling stations that election-night pundits and analysts writing in the immediate post-election period routinely note the striking tendency in Israel for the advantaged to favor the left and the disadvantaged to support the right.

In contrast, scholarly interpretations reflect the hegemony of the survey method. For instance except for the first edition, rarely has an ecological analysis appeared in the eight volumes published in the *Elections in Israel series*.[6] The Israeli literature as a whole does include several ecological studies (especially Diskin 1991; Gonen 1984; Matras 1965), although they generally failed to look for class voting. A notable exception is a major but little-known study of the 1988 elections by DellaPergola, which concluded from a statistical analysis of 810 urban Jewish localities that "social class is significantly stronger than ethnic background as a correlate of party preferences" (DellaPergola 1991:101). On reflection, it should not be surprising to find that the impact of class on voting is stronger in ecological than survey correlations. This is because (a)the higher quality of aggregate data allows more sophisticated conceptualization and measurement of class; (b)class (and other social variables) are in fact grounded in communities

as well as individuals; and (c)unlike surveys, comparisons across communities capture local biases as well as the effects of individual differences.

Insert Table 3 about here

To investigate the association between politics and places in the 1999 elections, we begin in Table 3 by presenting voting results for thousands of small localities known as Statistical Areas, classified by either types of locality or their social composition. Two outcomes are shown: the Prime Ministerial ballot and support for Shas in the Knesset vote. It is evident that in the contest between Netanyahu and Barak, certain types of communities voted with extreme homogeneity: 90% of kibbutz voters supported the candidate of the left, while at least 80% of Jews living in the Occupied Territories and Haredi neighborhoods[7] supported the candidate of the right. Class and ethnic voting were both pronounced, especially for the Shas party. Support for Shas in predominantly Mizrachi communities outnumbered its support in Ashkenazi localities by roughly six to one. A similarly wide gap separated the most and least affluent quintiles of Statistical Areas.

We proceed now to a more systematic analysis of geographical linkages between social background and the vote in the 1999 elections. Three specific challenges must be met for ecological analysis of voting. [8]

1. Creation of a merged dataset comprising both voting and social cleavage variables averaged across geographical units. Smaller units should increase our confidence in the results.

2. Construction of valid measures of social cleavages—in our case, the ethnic, class and religious composition of geographical units.

3. Verification that there is enough spatial segregation between social groups to make ecological analysis worthwhile.

1. Merged dataset

Political and demographic data for Statistical Areas (hereafter SA's) were obtained by merging geographical summaries of data from the 1995 census with the detailed results (by polling stations) of the 1999 elections. SA's are as close as Israeli government statistics get to "neighborhoods" although their size varies. Some of them are entire small communities while others are fine subdivisions of towns or cities. The average number of eligible voters in the SA's

that we analyzed was just over 1,500. Most of them (some 80%) comprised between 200 and 3,000 adults.

Our working dataset contained 1,968 Statistical Areas after the following exclusions: (a)Arab localities or localities with significant Arab minorities, (b)SA's that were very small or suspected of being non-residential, and (c)SA's that could not be matched in the census and election files. In addition, except for the kibbutz averages shown in Table 3 all of our analyses exclude kibbutzim (272 SA's) because of difficulties in measuring and interpreting their class composition.

2. Valid cleavage measures

Ethnicity: In the Israeli discourse on *edot* (ethnic communities) "Ashkenazi" and "Mizrachi" (or "Sephardi") are taken-for-granted categories. This discourse was constructed in part by the dichotomous treatment of the *edot* in official statistics, in which they are defined in biological and geographical terms (typically, the continent of origin of immigrants or their fathers). Our research also necessarily focuses on mainly on the conventional, broad categories of *Ashkenazim* (Jews born in Europe or the Americas or whose fathers were born there) versus *Mizrachim* (Jews born in North Africa or the Middle East or whose fathers were born there). We did make a few modifications however. Because of the distinctiveness (including political behavior) of the recent wave of "Russian" immigration to Israel, we created a separate category for immigrants from the former Soviet Union who arrived from 1989 onwards. In addition, where feasible we checked for the presence of internal differentiation between Mizrachim from North Africa and from Asia.

In some of our analyses (including Table 3) we have classified SA's according to the *dominant* ethnic group, if there was one. Operationally a group was defined as dominant if it enjoys a plurality of at least 40% of the adult population. Using this criterion, 41% of our SA's were dominated by Ashkenazim and 34% by Mizrachim. Dividing Mizrachim between "African" and "Asian" yielded dominance rates of 10% and 7% respectively. Only 3% of SA's were dominated by "Russians".

Religion: We inferred the religious complexion of SA's from three types of indicators. First, census data on the proportion of men whose highest education was Yeshiva studies at the post-secondary level. Second, the proportion of households that failed to turn in a census questionnaire. (The rationale for this indicator is that CBS officials are convinced that among Jews, most of the substantial phenomenon of non-cooperation with the 1995 census occurred among the ultra-orthodox.) Third, we obtained data from the Ministry of Education on the

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distribution of male elementary school students between the three officially recognized streams of the state education system: secular, national-religious (*mamlachti-dati*), and orthodox-religious (*azmai*).

Unfortunately, information on school trends was available only for whole towns or cities (*yishuvim*) and did not cover kibbutzim or moshavim. In view of this problem of missing data, two different analyses of the effect of religion are employed in our subsequent multivariate analysis of the social correlates of voting. The preferred measures (unavailable for nearly 500 SA's) are based on a factor analysis of all three indicators, which revealed one factor tapping the presence of Haredim and the other loading high on the proportion of *dati* students in the school system. As an alternative, we sacrificed the schooling data and aggregated the other two indicators (non-response and yeshiva education) into a single Haredi scale.

Class: With few exceptions (Zloczower 1972; Yatziv 1974), Israeli researchers have failed to problematize either their concepts or measures of class. Theoretically it is well known that there are a variety of competing conceptualizations of economic stratification. Most of them revolve around three potentially independent dimensions: production (e.g. occupation), consumption (e.g. income), and "sectors". Examples of vertical or sectoral cleavages are the public/private employment division (e.g. Burstein 1978) or distinctions between different "housing classes" (Dunleavy 1979; Dunleavy 1980; cf. Svallfors 1999:206-8).

While studies of class voting in the Western nations have typically focused on occupational class (see most recently Evans 1999), Israeli researchers have ignored both occupational and sectoral divisions and relied heavily on "socioeconomic status". But SES blurs the difference between class and status, erases qualitative distinctions between different types and conditions of work and ignores the possibility of vertical cleavages. The ecological analysis which follows is based on a factor analysis of indicators culled from the 1995 census that make it possible to find at least tentative empirical referents for the production, consumption, and sectoral dimensions of class structure. In addition to income, housing density and education, our indicators included (1)four direct indicators of consumption standards (e.g. ownership of cars and other goods), (2)two measures of the occupational and sectoral composition of jobs,[9] and (3)one indicator of state intervention in housing.[10] A principal component factor analysis yielded three factors, collectively accounting for 70% of total variance, that passed the conventional standard of having eigenvalues greater than 1.

As anticipated, there is a clear distinction between the consumption and production spheres. The first and strongest factor, which we have labeled *affluence*, represents living standards. It

loaded strongly on income, housing density and ownership of cars and dishwashers. The second factor, labeled *work*, was dominated by the two employment contexts and also loaded on education. The third and final factor is more difficult to interpret. It loaded heavily on two consumer goods (telephones and washing-machines) that are basic to contemporary lifestyles. Areas in which the possession of these goods falls significantly short of being universal suffer from a form of poverty that is apparently distinct from the extent to which a locality participates in consumer affluence (captured by the first factor). The *poverty* factor was also associated with the prevalence of public rental housing, which may hint at the existence of housing classes whose effect would be more clearly seen outside of the factor analysis. In fact, public housing alone is more strongly correlated than the poverty factor with ethnic and political variables. Therefore in later analyses we rely on the former measure.

3. Ecological segregation

For ecological analysis to yield plausible generalizations, whether about individual or contextual effects, it is desirable that the geographical units of analysis be internally homogeneous and externally differentiated. It is common knowledge that Arabs and Haredim are spatially segregated in Israel. In relation to ethnic differences among Jews (Ashkenazim vs. Mizrachim) two competing overall views have long characterized the stratification literature. Some scholars have emphasized the crystallization across different spheres, and the reproduction over time, of the subordinate class position of Mizrachim (e.g. Nahon 1984; Cohen and Haberfeld 1998), while others have pointed to the scope and growth of class differentiation among Mizrachim (Ben-Rafael and Sharot 1991; Benski 1994). Our data on the extent of ecological segregation between the two major ethnic groups and its class correlates indicate that both perspectives are relevant. There are hardly any Ashkenazi-dominated areas in the poorest quintile of SA's and almost no Mizrachi-dominated areas in the richest quintile. At the same time, dominance does not mean exclusivity. More than a fifth of all adult Jews live in areas where neither Ashkenazim nor Mizrachim "dominate".

To summarize, ethnic "domination" is sufficiently pervasive that there are reasonable grounds for using ecological analysis to analyze the effect of ethnic composition on local voting preferences. At the same time not all areas are dominated by one ethnic group, and even in areas where one group is numerically dominant the other constitutes a significant minority. This poses a problem for making ecological inferences about the behavior of individuals, because we do not know whether or how the political preferences of members of the minority group are

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affected by those of the majority. At the same time, despite a striking degree of spatial overlap between ethnicity and class they remain incompletely crystallized (and religion is even less so).[11] Overall, the evidence justifies using ecological correlations to test for contextual influences, but it clearly poses dangers for making inferences to the individual level.

Insert Chart 1 about here

Class and ethnic effects

Chart 1 provides a graphical representation of the joint effects of ethnic and class composition on voting propensities across Statistical Areas. This analysis will be followed by multivariate regressions that estimate net effects controlling for other probable influences. However we have also endeavored to eliminate some possible confounding effects from the graphs, simply by excluding certain population groups. Specifically, we left out three groups that are characterized by both extreme partisan tendencies and distinctive ethnic or class composition—Haredim, kibbutzim and Israeli settlements in the occupied territories.[12]

Three of the graphs relate to the two key political contests: Netanyahu vs. Barak, and Likud vs. One Israel (the expanded Labour Alignment). The other three cover the parties that most directly challenged the two leaders: Shas on the right and Shinui and Meretz on the left.[13] To maximize their comparability all six graphs have been constructed identically. The y-axis measures the mean vote for a party in SA's with a given class-ethnic combination, relative to the party's average in all the districts included in the analysis. The x-axis represents five equal divisions (quintiles) of the affluence factor. The relationship between class composition and the vote is shown separately for areas dominated by Mizrachim (black lines) and Ashkenazim (gray dotted lines).

Four findings are especially remarkable.

1.   Ethnic voting is universal—in every case there is a sizeable gap between the gray and black lines.

2.   There is also very clear evidence of class voting. As we move from poorer to richer areas support for the left rises, whereas it declines for Netanyahu and Shas. The sole exception is the Likud. The disappearance in 1999 of the Likud's longstanding advantage among the poor—especially the Mizrachi poor—undoubtedly reflects its losses to Shas.

3.   Voting for the two largest parties and their Prime Ministerial candidates provides no indication of interaction between class and ethnic effects. Each variable appears to make an independent contribution to political preferences, unconditional on the other.

4.   On the other hand, interesting conditional effects are evident for the most important rivals of the two major parties. Ashkenazim of all classes seem to refrain from voting Shas, but not all Mizrachim support it—that depends (inversely) on class. For Meretz and Shinui, we observe relatively low support in poor localities almost irrespective of whether Ashkenazim or Mizrachim dominate ethnic composition. But a wider ethnic gap emerges (for Meretz it is especially wide) as we move up the class ladder.

Insert Table 4 about here

Striking as the charts are, we would have more confidence in the results if they took into account influences on voting other than class and ethnicity. The ecological regressions in Table 4 add several new features to the analysis of voting in the Prime Ministerial contest and for Shas. First, rather than relying on an arbitrarily chosen criterion of "dominance", we now measure ethnicity on a continuous scale. Second, finer ethnic categories are utilized: African and Asian Mizrachim are treated separately and the effect of "Russian" presence is measured directly. Third, all three of the empirical dimensions of class are included. Fourth, we add indicators of the religious cleavage to the analysis of class and ethnic effects. Fifth, we test the effects of certain types of locality (such as "development towns") that are commonly believed to have effects on voting above and beyond their ethnic, class and religious composition. Sixth, in some equations we estimate the determinants of the vote swing between 1996 and 1999.

The models perform well. The proportion of explained variance is high; nearly all coefficients are significant at conventional levels (hardly surprising given the large number of cases analyzed); and the effects of ethnicity, affluence, Haredi presence and location in the occupied territories ("settlements") exhibit extremely high levels of significance. Multicollinearity—correlation between independent variables that hampers precise and reliable estimation of their individual effects—is not a serious problem.

Substantively the regression coefficients confirm the conclusions already reached by means of graphical analysis, but they add some interesting nuances.

Ethnicity: The effect of distinguishing between Mizrachim of Asian and African origin depends on which indicators are used for religion (and consequently, whether or not the dataset is truncated). It is clear that the Asia/Africa distinction makes little or no difference to the Prime

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Ministerial vote. But as might be expected, other things being equal the presence of North African immigrants and their children offers more of a boost to the Shas vote than residents of Asian origin. The "Russians" are more difficult to track because they are not a significant presence in most neighborhoods and only dominate a relatively small number of SA's. Netanyahu definitely did better in those neighborhoods, although his edge was smaller than in 1996.

Class: The regressions support our assumption that class is multidimensional: all three indicators had independent effects on voting. Given that factor scores are standardized the results imply that an increase of one standard deviation in the affluence factor added about 10 points to the Barak vote, whereas a similar increment to the work factor added a quarter to a half of that amount. The influence of the third class indicator, the proportion living in public rental housing, was more modest. In the results for Shas, the pattern is similar except that relatively speaking there is not such a big difference between the effect of affluence and the other two indicators of class composition.

Religion: Both indicators of Haredi presence had very strong and positive effects on the vote for Netanyahu. But Shas, whose origins in the mid-1980s were linked to internal disputes within the ultra-orthodox political camp, did not benefit to the same extent from the overall presence of Haredim. Similarly, whereas Netanyahu profited substantially from strong "national-religious" as well as ultra-orthodox streams, Shas did not.

Location: In Table 3 we saw that Netanyahu's share of the vote among Israelis living in the occupied territories was 34 points higher than the national (Jewish) average. Table 4 shows that even after controlling for the three key social cleavages, a gap of more than 20 points remains. On the other hand, the above-average support for both Netanyahu and Shas in development towns appears to be fully explained by their class, ethnic and religious composition. The same is true for the predominantly Mizrachi moshavim.

Three questions remain to be answered:

(1) *How similar or different are the patterns encountered in 1999 from the preceding election?* Models 3 and 6 were included in Table 4 to address this issue by using the 1996 vote as a control variable, in effect redefining the dependent variable as the rise or fall in the relevant share of the vote between the two elections. Broadly speaking the results suggest that the same factors which determined the overall outcome in 1999 also affected the swings. Still, there were differences. Netanyahu actually gained support in 1999 among

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Haredim (especially in Ashkenazi areas), while his already inferior position in affluent areas was further weakened. In fact, cross-tabulations not shown here reveal that in 1999 relatively affluent and Ashkenazi-dominated SA's led the swing to Barak, swimming even more strongly than before against the currents pulling towards Shas. By contrast, in less affluent and Mizrachi-dominated areas it was more common to find deepened support for both Netanyahu and Shas.

(2)   *What is the relative importance of the different social bases of voting?* The unavoidable imprecision of most of our indicators and the presence of some multicollinearity between ethnicity, class and religion in Israel make it difficult to reach clearcut conclusions on this point. However, according to standardized coefficients of a regression analysis of the four leading factors defining aggregate vote for the premiership (also not shown here), all three cleavages had similar weight.

(3)   *Can any significant interactions be detected?* Based on similar simple but powerful regression models run separately for Ashkenazi and Mizrachi-dominated areas (not shown), it is evident that in the race for Prime Minister the vote was substantially more sensitive to class differences in Mizrachi areas. In the voting for Shas the effect of all three cleavages was much greater in Mizrachi-dominated areas than in Ashkenazi localities.

The ecological findings thus show that alone or in combination with ethnicity and religion, class shaped both the distribution of votes in 1999 and vote shifts since the 1996 elections. This analysis was moreover based on data that are in many ways superior to those utilized by survey researchers: the dependent variable is *actual* voting, all parties and social groups are accurately represented, and it is possible to generate much more interesting indicators for the critical independent variable (class). Yet as we have cautioned, ecological relationships represent an uncertain combination of effects at the micro (individual) and macro (community-context) levels. The next section takes up this challenge.

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Putting voters in context

While voting is ultimately an individual act, both the range of choices relevant to voters and the implications of individual differences between them are dependent on community context. To analyze these dependencies, as well as to overcome problems of inference from both micro and macro data, requires a methodology capable of recognizing and jointly evaluating both individual and contextual effects on voting. The ideal tool for this purpose is multilevel analysis (MLA), an innovative statistical technique which has become especially popular in research on individual differences in school achievement. Students of educational attainment employ MLA to disentangle the effect of individual differences between students from the effects of teachers, schools and/or communities. The technique has obvious relevance to the study of voting behavior, in which individuals make decisions which are likely to be affected and conditioned by their spatial and social environment (e.g. Jones, Johnston, and Pattie 1992; Charnock 1997).

The essential requirement for MLA is a dataset integrating individual and aggregate-level information. The 1999 pre-election survey conducted by Shamir and Arian was not designed for the purpose of multilevel analysis. However, because the sample was comprised of a diverse but limited selection of localities it was possible for us to identify in which of the 38 sampled areas each of the 1,075 non-Arab respondents resided.

Despite numerous limitations of the effective sample of 591 individuals living in 16 localities, the dataset opens an intriguing window onto the significance of local context for political behavior in Israel. For instance, the size and even the direction of the gap between Mizrachi and Ashkenazi voters differs enormously across localities. This finding throws into question the very notion of *the* ethnic vote. It is particularly to compare "blue-white" Jerusalem and "red" Tel Aviv. There was no ethnic vote in 1999 in either of the two cities. In Jerusalem most survey respondents preferred Bibi and in Tel Aviv most preferred Barak *regardless of whether they were Ashkenazim or Mizrachim*.

Obviously, much more and better data would be required to validate and elaborate such local contrasts. But by combining micro-level data on individuals from the 16 available localities with macro-level census data for these same localities, we can construct a dataset which is at least minimally adequate for the purposes of multilevel analysis. It should be remembered that our aim in using MLA is not to characterize local voting behavior and its causal origins in specific communities. We are interested in finding relationships between variables and levels that hold across a diverse selection of communities. Such relationships, if they exist, would enable us to

make general inferences about whether location matters and why. These are the three specific questions that we would like to address:

1.   To what extent are local differences in the vote merely the byproduct of the type of people who live in different communities? The predominance of observant and traditional Jews in Jerusalem versus "secular" Jews in Tel Aviv is a good illustration of why the apparent impact of place on ethnic voting could be spurious, resulting merely from a *compositional effect*.

2.   If voting does differ across localities irrespective of the types of people who live in them, what features of localities can explain these differences? Judging by the results of our ecological analysis we would expect all three social cleavages to have strong *contextual effects on how individuals vote*.

3.   Localities may systematically bias the preferences of their residents towards one political bloc or another, but the magnitude of local bias may vary between among types of voters. That is to say, community context may alter the impact of individual characteristics ("cross-level interaction"). We noted earlier that ethnicity had no apparent impact on voting in the two largest cities; but in Haifa and several other localities there was a wide ethnic difference in voting. Would this still be the case if we could set aside the impact of both individual and community-level determinants of voting?

MLA is designed to address precisely these three tasks: differentiating true contextual effects from compositional effects; explaining local bias insofar as it does exist; and identifying interactions between local and individual effects.[14]

In the spirit of an exploratory analysis that stretches the available data, our application of MLA to 1999 data rests on simple indicators and specifications. As explained below, a limited number of dichotomous explanatory variables are entered into the equations. For estimation, despite the advantages of logistic regression in analyzing dichotomous dependent variables, standard (OLS) regression is preferred. OLS is not only easier to interpret, but in the context of MLA it offers more tools for evaluating model performance and fewer estimation challenges. Nevertheless, to verify that the OLS results are not distorted all of the models were re-estimated using logistic regression and one of these results is presented here.

Insert Table 5 about here

The multilevel analysis reported in Table 5 begins with the "empty" Model 1—so called because it is devoid at this stage of explanatory variables (Snijders and Bosker 1999:45-47). The purpose of this model is to decompose the overall variance in voting between each level: variation *within* localities (which can be thought of as representing individual differences) versus variation *between* localities (reflecting local bias). As is common in datasets where individuals are nested inside groups, only a modest share of the overall variance (12.5%) can be attributed to between-group differences. This ratio implies an "intraclass correlation coefficient" of .125, meaning that the clustering of voters in localities leads to some degree of similarity in their votes. Ignoring this clustering effect might cause an ordinary regression analysis to overstate the significance of pure individual differences, although in the present instance this exaggeration turned out to be quite mild.[15]

The empty model estimates the overall intercept for all the individuals sampled, which is similar (but not identical) to their mean probability of voting for Netanyahu. The multilevel analysis also provides a separate intercept for each locality. Comparing these intercepts it is possible to infer whether the "base level" of the dependent variable differs across localities. The statistic which summarizes the extent of these differences is the average "reliability" of the differences between localities. This statistic is very high in Model 1 (just under .8).

Model 2 introduces four explanatory variables which we already know are powerful predictors of individual voting behavior: the most potent issue variable reported in Table 1 (readiness to trade land for peace) as well as the usual three social cleavages. Ethnicity is represented in the equation by two dummy variables with Ashkenazim serving as the null category. We chose one indicator each for SES (housing density) and religious observance.[16] For ease of presentation all of the indicators are dichotomous and constructed so as to positively affect the vote for Netanyahu. The initial results (individual-level fixed effects) are as we would expect: all variables except housing density are statistically significant (t ratios of at least 2.0), with religiosity and especially hawkishness having a pronounced impact on individual candidate choice.

The main purpose of Model 2 is to ascertain how much of the diversity of voting across localities disappears once we take account of key individual differences inside localities. This speaks to the crucial compositional question, whether differences in support for Netanyahu across localities disappear once we take account of their composition. Far from it; the reliability of local variation in intercepts is actually slightly *higher* in Model 2 than in Model 1. Naturally the extent of unexplained individual-level variance is considerably lower, but no reduction has occurred in

the amount of unexplained aggregate-level variance. This is extremely important. It means that there are no grounds to suspect that local differences in aggregate voting patterns merely result from compositional effects.

The extent of each model's overall fit is addressed in the bottom rows of Table 3.1. Multilevel models are estimated by likelihood methods that generate a "deviance" statistic. One of the reasons for estimating the empty model is to obtain a baseline measure of deviance against which subsequent models can be assessed. An accepted indication that one model is a significant improvement over another, is that it reduces deviance by at least twice the number of additional parameters that it estimates (Kreft and Leeuw 1999:65). Not surprisingly, the addition of explanatory variables in Model 2 considerably improves the overall fit compared with Model 1.

Detecting variation in voting across localities that cannot be attributed to individual differences is only the first step in multilevel modeling. The next task is to uncover the sources of this variation by modeling the effects of differing local contexts. Using the rich dataset on localities collected for our ecological analysis we assessed the effect of variations in the ethnic, religious and class composition of the 16 localities included in the survey and analyzed here. Of these variables *only class composition* (measured by housing density) *was found to have a significant effect*, as judged by both its high t-statistic and the sizeable reduction in unexplained variance between localities in Model 3 compared to Model 2. The coefficient showing the effect of local variations in housing density can be interpreted as follows. A unit increase on the measure is equivalent to the gap between Haifa and the Qrayot, or Herzliyya and Holon–and it was associated with 15 points more support for Bibi. This is a very large effect indeed.[17]

Note that between Models 2 and 3 the reliability of intercepts across contexts, an indicator of remaining contextual effects, declines; yet at .715 it is still very high. To further account for variation between localities we might need to incorporate other aggregate-level variables that are not in our dataset. It is also possible that different configurations of characteristics render localities qualitatively different one from the other. But one thing is clear: beyond the effects of individual differences, *place itself* and at least one characteristic (the standard of housing) of places matter a great deal for voting in Israel.

So far we have looked only at differences across contexts (localities) in "base" levels of support for Netanyahu versus Barak (intercepts). MLA can also tell us whether the impact of personal characteristics on individual votes is conditional upon features of the context in which the individual lives. To test for the existence of these cross-level interactions, we must permit not

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only the intercepts but also the *slopes* estimated in Model 2 to vary across localities. This is the purpose of Model 4, which reports the only individual-level variable (ethnicity) whose effect was found to differ significantly across localities. Reliability and variance, the two indicators of the extent of contextual differences in the ethnic vote, suggest that contextual variation is significant although modestly so. It seems that our earlier speculation that there may be no such thing as *the* ethnic vote may be well founded, although as with the other MLA findings reported here, more and better data will be needed to be sure. Data limitations may also account for the fact that nothing came of experiments (not shown in Table 5) that proceeded to the ultimate stage of multilevel analysis, in which contextual variables are called upon to *explain* the varying impact of individual differences in different localities.

Our final two models, 5 and 6, integrate all three locality-level effects: differences in intercept ("base levels"), differences in slope (with respect to ethnicity), and the fixed effect of housing density at the community level. Combining the latter two effects, Model 5 lowers the overall deviance by a satisfactory margin with respect to both Models 3 and 4. Gratifyingly, when the same equation is re-estimated using logistic regression (Model 6) none of the effects is found to lose significance. On the contrary, in this model the impact of housing density is statistically significant at the individual and locality levels alike. Voters are apparently influenced by both their own socioeconomic situation and, even more, the class composition of the communities they live in. We could hardly have hoped for more convincing evidence of the credibility of the class voting hypothesis.

Conclusion

We began this paper with an analysis of survey data suggesting that the near-absence of class effects on individual voting in previous empirical research may have resulted more from methodological inadequacies than from the actual patterning of voter behavior. We then argued for the power of ecological analysis, largely untapped in previous work, to complement and in some respects even supersede the survey approach to electoral behavior. By correlating aggregate election results with background characteristics across numerous geographical areas, we were able to verify the centrality of class voting in Israel. Ecological analysis thus elevated the class cleavage—a social basis of voter choice suggested by both theory and common knowledge—to its rightful place alongside other well-known social divisions in the Jewish electorate. Still, as we have taken pains to stress, micro and macro-level data are not simply alternative sources of empirical information for modeling voter behavior. Multilevel

analysis makes it possible to distinguish between the impact of individual differences and local biases. It appears that in Israel class influences voting at both the individual and local levels.

Beyond the recurring significance of class voting, our three methodologies did not always yield convergent results and indeed, given the differences and tradeoffs between them, convergence could hardly have been expected. Which results are more credible? The ecological analysis is undoubtedly the most "solid" in terms of the size and quality of the database but, as we conceded, interpretation of ecological correlations is far from straightforward. MLA represents a vastly superior methodological strategy than either of the two conventional approaches on their own. However, the pooled dataset at our disposal does not fully meet its demanding requirements. What we hope to have achieved in this respect is a demonstration of the promise of multilevel analysis for addressing critical but unresolved issues in the study of electoral behavior in Israel. In order to realize this promise, we urge survey researchers to modify the size and composition of their samples in order to make them more suitable to the application of MLA.

Still, even by combining improved data with superior statistical techniques it will never be possible to eliminate tentative and inconsistent findings. These limitations are inherent to the ambition of making parsimonious generalizations about complex causal processes that operate at multiple levels of analysis. We regard the results of the present research as having accomplished our main purpose of questioning the paradigm and the techniques underlying the long-established view that class is located at the bottom of a well-defined hierarchy of social cleavages among Israeli voters. Our findings show that firstly, the effect of class is comparable to that of ethnicity and religion; and secondly, the impact of social cleavages is not purely additive but also interactive, although these interactions remain ambiguous. It might be possible to resolve this apparent contradiction using MLA, assuming appropriate survey data becomes available. Yet insofar as different *configurations* of class, ethnicity and religious observance are accompanied by distinctive patterns of electoral behavior, the question of interpretation becomes no less challenging than the challenge of pinning down what is happening empirically. What is it the glue that binds these configurations together and endows them with electoral significance? This question brings us back to the issue raised at the outset of this chapter, the problem of understanding class voting in a polity characterized by weak political articulation of class by parties and in political discourse.

Brooks and Manza (1997), who utilized the distinction between class voting and class politics to good effect in their study of political change in the United States, show that during the postwar

period the members of an important class category (professional workers) consistently tended to vote with their class (class voting). At the same time, the partisan preference of professionals shifted from the Republicans (who presumably represent their economic interests) to the Democrats (who better embody their increasingly progressive positions on key social issues like racial and gender equality). Brooks and Manza do not explain this paradox. The "post-materialist" thesis (Inglehart 1977; Clark, Lipset, and Rempel 1993) predicts the rising importance of social issue cleavages, but is unable to explain why the new politics has taken root only among certain classes. Clearly, the formation of professionals as a "voting class" rests upon different foundations than the factors that were responsible in the past for the political mobilization of blue-collar workers. Rather than union membership and class solidarity, professionals share a social outlook that helps sustain their distinctive collective identity and at the same time provides them with "cultural capital" that indirectly serves their material interests by maintaining social closure (cf. Bourdieu 1984; Parkin 1974). Thus, *non-economic issue positions may reinforce rather than compete with class allegiance.*

Despite obvious differences in content, the Israeli case presents a puzzle which in principle is similar to the American one. Our research has shown that economically advantaged non-Arab citizens of Israel tend to vote together for the "left", while their less fortunate compatriots prefer the "right" and/or the ethnic-religious Shas party. But as in the case just discussed, the most obvious correlates of these class-voting linkages are non-economic: disputed issues of collective identity, the role of religion in personal and national life, and management of the peace process and future borders (Kimmerling 1999; Peres and Yaar 1998; Shamir and Arian 1999). In the spirit of Bourdieu it may be argued that in Israel, *struggles over identity and borders are by no means detached from class interests.* Peace, liberalization and privatization are the indivisible components of a coherent formula for the success of the dominant group of middle and upper-class Ashkenazim in today's globalized, hi-tech, post Cold War world (Peled and Shafir 1996; Levy 1997; Ram 1999). It is in this context that Shas speaks to the material interests of its lower-class Mizrachi supporters, the losers from liberalization, by alternately directly providing them with subsidized social services or supporting a more generous welfare state. A second explanation derives from the high degree of overlap in Israeli society between ethno-class differentiation and the distribution of social status and political power. This approach suggests that *the main political cleavages between ethno-classes are reflections of status politics.* On this reading the success of Shas rests on its traditional religious conception of Israeli identity, which in the context of Israel's three-tiered status order (Palestinians, Mizrachim,

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Ashkenazim) ensures the elevation of Mizrachim above the Arab citizens of the state and offers a platform for challenging Ashkenazi hegemony (Peled 1998).

These two perspectives need not be seen as mutually exclusive. Voting among lower-class Mizrachim and higher-class Ashkenazim is "over-determined" by both class and status interests. Yet despite substantial overlap between ethnicity, rival subcultures and class interests, we must also ask whether class or status politics triumph when these three planes are "misaligned". What may be gleaned from our data suggests that there is no clearcut answer. The individual-level evidence indicates that in the Prime Ministerial race ethnicity, religiosity and class all contributed to predicting candidate preference. Survey data are too scanty to offer reliable explanations of why, where conflicts occurred, some individuals vote with their class and others with their identity. The ecological data confirm that where different cleavages fail to crystallize, each one plays a role in shaping voter preferences. Consider the 11 most affluent SA's in our dataset that are also located in the heartland of advantage, the Tel Aviv metropolitan area (they include Savyon, Kfar Shemarayhu and Herzliyya Pituach). Netanyahu received an average of only 14% of the vote in these communities and Shas garnered a mere 1%--a testament to the potency of class voting. At the same time, the vote for both Shas and Netanyahu did vary across localities, and its variation was closely correlated (r=.85) with the representation of Mizrachim, which ranged from under a tenth to over a quarter. So even at this extreme on the class and voting spectra, there was far from perfect overlap between class and ethnic composition and class voting did not suppress ethnic voting. In sum, while the interplay between class interests and cultural identities goes a long way to explaining voting behavior in Israel, where the two are in opposition the result is uncertain.

Table 1: **Determinants of the vote for Barak vs. Netanyahu**
(Logistic regressions, 1999 pre-election survey)

	1			2			3		
	B	Exp(b)	*t*	b	Exp(b)	*t*	b	Exp(b)	*t*
Constant	0.42		*3.8*	4.75		*6.8*	8.14		*7.2*
Ethnicity									
Ashkenazi	-1.18	0.31	*-7.0*	-1.08	0.34	*-5.4*	-1.00	0.37	*-3.7*
Sabra	-0.58	0.56	*-3.2*	-0.19	0.83	*-0.9*	0.01	1.01	*0.0*
SES									
Education				-0.23		*-1.9*	-0.20		*-1.3*
Income				0.06		*0.8*	0.18		*1.7*
Density				-0.39		*-2.3*	-0.25		*-1.0*
Religion									
Secular-religious				-1.08		*-9.8*	-0.35		*-2.1*
Demography									
Age							0.00		*-0.4*
Female							-0.26	0.77	*-1.2*
Issues									
Territories for peace							-0.78		*-11.6*
Capitalism vs. socialism							-0.46		*-3.3*
State & religion							-0.50		*-3.5*
N	831			757			713		
Percent classified correctly	61%			70%			85%		

<div align="center">

Table 2: **Class effects on the vote for Netanyahu**
(1999 pre-election survey)

</div>

Housing density (persons per room)	Up to 1= **40%**	1 to 1.33=**64%**	More than 1.33=**74%**
Formal education	College degree=**37%**	12 years=**50%**	Less than 12=**47%**
Your monthly spending compared with the average	Above average=**36%**	Average=**52%**	A little below average=**63%**

Table 3: **Vote by type of location**

	Netanyahu	**Shas**
National total (Jewish)	49	14
Type of settlement		
Kibbutzim	10	1
Moshavim: Ashkenazi-dominant	22	2
Development Towns	60	22
Moshavim: Mizrachi-dominant	68	29
Settlements (occupied territories)	83	12
Locally "dominant" social groups		
Ashkenazim	33	5
"Russians"	51	11
Mizrachim-North Africa	67	31
Mizrachim-Asia	68	29
Haredim	78	20
Class composition*		
Affluence: highest 20%	25	4
Affluence: lowest 20%	68	28

Aggregate results for 1,968 predominantly Jewish Statistical Areas (except for class composition, which excludes kibbutz and Haredi localities, n=1,491). Definitions of the variables appear later in the text.

Table 4: **Ecological Regressions**

	Netanyahu			**Shas**		
	1	**2**	**3**	**4**	**5**	**6**
Constant	36.8***	31.5***	−3.64*	.42	.64***	.01
Ethnicity						
% Africa	.30**	.45***	.07*	.41***	.43***	.21***
% Asia	.36***	.45***	.06*	.37***	.32***	.14**
Russian dominant	2.35	5.80*	−1.23	.33	.38	.42
Class						
Affluence factor	−9.44***	−10.52***	−3.18***	−3.51**	−4.13***	−1.85**
Work factor	−4.96**	−2.43*	−.59	−2.18*	−1.54*	−.44
Public housing	.15*	.15	.04	.12*	.07	.05
Religion						
Haredi scale		10.77***	2.84**		2.43*	1.19*
Haredi factor	8.55***			2.75**		
Dati factor	4.06***			.72		
Type						
Settlements	20.69**	20.72***	−.23	−2.96	−6.77*	−1.12
Development Towns	−1.63	−1.55	.67	−1.74	−1.43	−1.20
Mizrachi Moshavim		−4.90	2.58		−4.82*	−0.54
Vote in 1996						
Netanyahu 1996 (%)			.91***			
Shas 1996 (%)						.84***
Adjusted R-squared	.87	.81	.96	.77	.73	.86
n	1,204	1,689	1,678	1,204	1,689	1,678

* t>= 5 ** t>=10 *** t>=15

n is the number of (predominantly Jewish) Statistical Areas, excluding   kibbutzim.

Table 5: Multilevel analysis of the vote for Netanyahu versus Barak

	Permit intercepts to vary by locality		Add predictors of individual differences		Add predictors of locality differences		Permit slopes of individual predictors to vary by locality		Combine Models 3 & 4		Re-estimate Model 5 using logistic regression*	
	1		**2**		**3**		**4**		**5**		**6**	
	b	*t*	b	*t*	b	*t*	b	*t*	b	*t*	b	*t*
Fixed effects												
Intercept	.546	*11.2*	.549	*11.3*	.633	*16.1*	.633	*18.2*	.633	*18.2*	0.25	*1.8*
Individual Level (*n*=591)												
Mizrachi			.098	*2.6*	.098	*2.6*	.112	*2.2*	.112	*2.2*	.69 (2.0)	*2.6*
Sabra			.105	*2.4*	.105	*2.4*	.088	*2.0*	.088	*2.0*	.58 (1.8)	*2.6*
Crowded			.057	*1.3*	.057	*1.3*	.060	*1.4*	.060	*1.4*	.39 (1.5)	*2.1*
Observant			.229	*5.6*	.229	*5.6*	.216	*5.3*	.216	*5.3*	1.25 (3.5)	*6.2*
Not dove			.515	*14.1*	.515	*14.1*	.516	*14.4*	.516	*14.4*	2.73 (15.3)	*12.9*
Aggregate Level (16 localities)												
Housing density					1.53	*4.2*			1.47	*4.7*	8.20	*4.0*
Contextual (random) effects												
Intercept (reliability)	.795		.863		.715		.868		.728		.649	
Slope of Mizrachi (reliability)							.383		.374		.385	
Slope of Mizrachi (variance)							.013 (p=.06)		.012 (p=.06)		.576 (p=.05)	
Model performance												
Unexplained variance												
Within localities	.219		.143		.143		.140		.140			
Between localities	.030		.033		.012		.033		.013		.359	
Deviance	812.4		592.2		582.0		588.0		579.6			
Extra deviance/Extra parameters			-44.0		-10.2		-4.2		-2.4/-4.2			

Models were estimated using HLM for Windows 4.04 after deviating individual-level variables from their group means ("group centering"). Micro data were drawn from the Shamir-Arian 1999 pre-election survey; macro data are from the 1995 census. All data are for Jews only and micro-data exclude recent immigrants from the former Soviet Union.
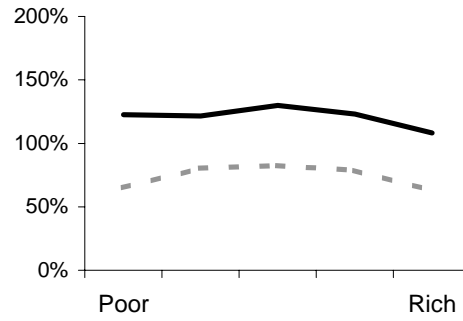
* Figures in parentheses next to dichotomous independent variables are odds ratios. Estimation method is the population-average model with robust standard errors.

Chart 2
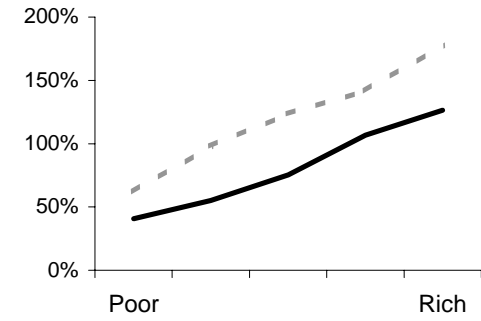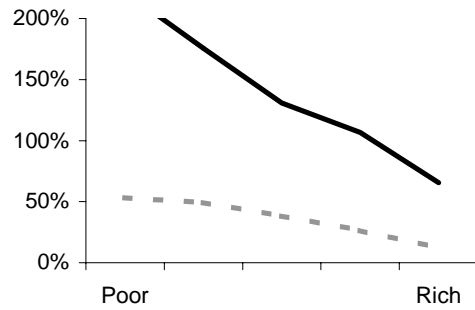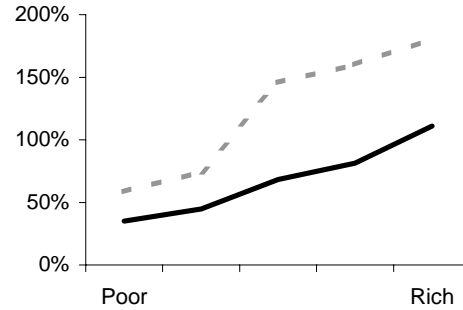**Class, ethnicity and voting in 1999 (ecological data)**

Netanyahu
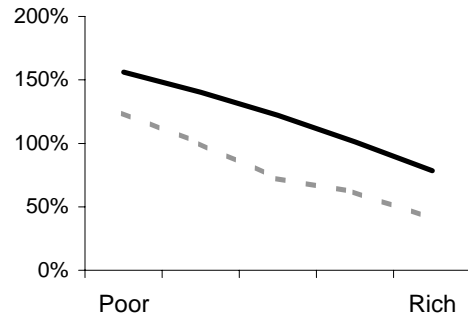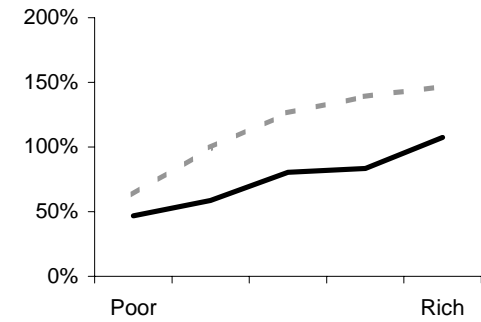

Likud

One Israel

Shas

Meretz

Shinui

The black line (Mizrachim) in the Shas chart is missing
the value (222%) for the first point on the x-axis, which
must be added manually.

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Notes

[1] Given the significant number of non-Jewish Israeli citizens from the former Soviet Union in contemporary Israel, it would be inaccurate to describe our research population as "Jewish voters". See Lustick (1999)

[2] Deviations from Arian and Shamir were: (1)Rather than treating "Sabras" (second-generation Israelis of unknown origin) as Ashkenazim we created a second dummy variable for them. (2)We did not include evaluations of candidates' competence in the model, on the grounds that these are so highly correlated with candidate choice that they should be regarded as a consequence no less than a cause of voting intention. In addition, note the following: (1)At Michal Shamir's suggestion we used a voting intention question that did not permit respondents to choose candidates other than Netanyahu and Barak. The ethnic bias of the Bibi/Barak vote would have been even larger if we had excluded voters who would have preferred Mordechai or another third party candidate. (2) "Russians" (immigrants from the former Soviet Union since 1989) were excluded from the analysis. (3)We experimented with distinguishing between foreign and Israeli-born Mizrachim and Ashkenazim. The results for the two generations were almost identical for both ethnic groups.

[3] Housing density for nearly one third of respondents was precisely one person per room, and 60 percent reported 12 years of schooling.

[4] Respondents were asked to evaluate their household expenditure relative to the mean for a family of four (NIS 9,000 at the time of the survey) *taking into account the size of their own family*. Apparently those with small families failed to make this adjustment and therefore understated their true standard of living.

[5] Our speculation that other elections would reiterate the 1999 pattern is of course only a speculation. Generally speaking the empirics in this paper are confined to the 1999 election.

[6] This generalization does not hold for articles on the Arab vote, since until recently survey data was not available for this sector.

[7] The criteria used to define the categories distinguished in Table 1 are discussed below. It should be stressed that identification of Haredi neighborhoods rests on a rough quantitative criterion that most probably causes understatement of the homogeneity of the Haredi vote.

[8] For a fuller discussion of methodological issues in ecological analysis, see the research report cited in the note at the beginning of this chapter.

[9] In constructing indicators of the local job market we were limited to single-digit classifications of occupations and economic branches. Our first indicator, "proletarians", is the proportion of the employed who have manual occupations and work in manufacturing, construction or agriculture. The second indicator, "public professionals", is the proportion with technical, professional or managerial occupations who work in social services (health, education, welfare), public services or community services. As well as honing in on different ends of the occupational scale, these indicators also have an obvious sectoral component.

[10] The housing indicator is the proportion of households living in public rented dwellings, which are characterized by low construction standards and low market value (Werczberger 1995).

[11] Complete "crystallization" would imply perfect correlation between the ethnic, class and religious composition of SA's. However, excluding kibbutzim we find the following bivariate correlations with percent Mizrachim: affluence factor -.42, *dati* factor .36, *haredi* factor .22 (the parallel correlations for percent Ashkenazi were markedly lower).

[12] We also took care that "Russians" would not confound our indicator of Ashkenazi domination, which is based on the proportion of Ashkenazim in each SA *excluding* immigrants since 1989 from the former Soviet Union.

[13] The aggregate vote share for these candidates/parties in all 1,968 of the SA's in our basic dataset (including kibbutzim) was: Netanyahu/Barak 48.7/51.3%, One Israel 21.9%, Likud 15.7%, Shas 14.3%, Meretz 7.7%, Shinui 5.6%.

[14] For a clear textbook presentation of multilevel estimation, see Kreft (1999).

[15] Estimating Model 2b using standard OLS regression yielded almost identical coefficients but somewhat higher t-statistics.

[16] Except for religious observance, all of the individual-level indicators are based on the same questions that were utilized in our replication of Shamir and Arian's logistic models.

[17] Because this effect might have been inflated by "centering" the independent variables around their local means, we re-estimated the effect of differences in density across localities by also

including at the locality level the local means of the remaining individual-level variables (Kreft and de Leeuw 1999:108), obtaining very close results to the models reported in Table 5.