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Bridging the Micro-Macro Gap

A Multilevel Approach to Voter Behavior in the Nordic European Union Referendums[1]

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Abstract:

A prominent theme in many studies of the popular support for European Union (EU) integration has been the economic aspects of the integration process. The literature on the three Nordic referendums on EU membership in 1994 is no exception. Although the theme has been explored from various angles, one question remains unresolved. How can we account for the divergent findings in regard to economic voting on different levels of analysis? So far, the aggregate level findings seem to bolster the commonsense argument that Finland and Sweden joined the EU out of economic necessity, whereas Norway could afford to stand alone. On the individual-level of analysis, however, traditional indicators of economic interests have feeble explanatory power and voters complaining about personal economic grievances are less likely to support EU membership. We try to solve this level-of-analysis enigma by introducing two contextual factors: mesotropic (or intercept) effects and cross-level (slope) interactions. Mesotropic effects arise when voters take the economic interests of their community into consideration in addition to their personal interests. In the case of cross-level effects, voters allow the interests of their community to blend in with their personal interests, either as reinforcement of their personal interests or as suppression of them.

Keywords:

- EU-integration
- economic voting
- mesotropic voting
- contextual effects
- cross level interaction

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PROLOGUE

Norwegian political science had one of its finest moments when Henry Valen presented his analysis of the turnout in the 1972 referendum on membership of the European Community (Valen 1974). To most politicians, journalists, and researchers alike, the low turnout after the long and intense campaign was puzzling. According to conventional wisdom, an intense campaign, a close race, and much at stake for many voters should lead to an exceptionally high level of participation. A turnout well below the level of the preceding national election (10 percent) left most observers perplexed. Valen (1974: 107–108), however, was able to display a U-shaped association between the referendum outcome and deviance from the "normal" turnout rate in the constituency. The closer to an even distribution of the vote on the 'yes' and 'no' alternatives, the more "depressed" the turnout. Referring to the work of Lazarsfeldt et al. (1948), Valen described this striking pattern as the result of "cross-pressure": the tendency to withdraw from political participation when one's personal opinion instigated controversy in the family, among friends and colleagues, or differed from the position of the preferred party. Individuals were so much influenced by characteristics of the milieu that their political behavior altered radically.

In this article, our ambition is to reopen the discussion on the importance of contextual variables in the EU referendums, but to approach it from a different angle. It is not so much a contribution to the discussion that arose after the record high participation in the 1994 referendum (Nilson 1994, Valen and Pettersen 1995, Bjørklund 1997), as an attempt to solve a related puzzle: the level-of-analysis enigma in economic voting. Previous research (Moses and Jenssen 1998) has revealed striking contrasts in the three Nordic EU referendums of 1994, namely powerful associations between economic variables at the (aggregate) county level and EU voting, and feeble associations between economic variables and EU voting at the individual level.

ECONOMIC ASPECTS OF POPULAR SUPPORT FOR EU INTEGRATION

In 1992 the European Economic Community (EEC) was renamed the European Union (EU) as an expression of its broadened political ambition. The economic aspects of the EU have nevertheless remained important, not least when it comes to popular support for it. Over the years, perceptions of the economic aspects of EEC/EC/EU membership have been a focal point in several studies of the integration process. Inglehart and Rabier (1978) found that support for membership fluctuated positively with the level of industrial production and was negatively correlated with inflation in the respective nations. According to Inglehart and Rabier, the public attributed economic developments to the policies of the EEC. Dalton and Eichenberg (1991) have ascribed the consistent national differences in support for the EU to stable differences in perceptions of personal and national economic situation. They argued that the economic gains from the EU's free trade policy increased support for integration (Eichenberg and Dalton 1993). Gabel and Palmer (1995) described the possibility of personal benefit from the EC's liberal market policies, along with national trade and security concerns, as the driving force behind support for European integration in member states. The 'no' majority in the Danish referendum on the Maastricht Treaty has been explained as a result of the shift from (relatively popular) economic integration to (less popular) political integration (Sieune 1993, Svensson 1994). In Denmark, one's attitude to the common currency is the single aspect of EU policy most closely linked to general support for the EU (Borre and Goul Andersen 1997, ch. 10). More recently, the attractiveness of EU membership to people in Belarus, Moldova, Russia, and Ukraine has been explored. White et al. (2002) have argued that achieving the living standard associated with "Europeanness" is one of the main considerations among the public. Szczerbiak (2001) has explained the declining popular support for EU membership in Poland as a result of growing awareness of the rapid changes that would take place in the Polish economy subsequent to membership. These examples from the voluminous literature suggest that understanding the public's economic assessments has become a cornerstone in most studies of public support for European integration.

The strong emphasis on the economic aspects of EU membership was also noticeable in various studies on the three Nordic referendums on EU membership in 1994. When prompted to give reasons for their vote intentions during the public debates (open-ended questions), voters in Finland (Pesonen 1994), Sweden (Oskarson 1996), and Norway (Ringdal 1995) stated the economic arguments as being important (Jahn

and Storsved 1995, Jahn et al. 1998). In Finland, economic considerations were more frequently mentioned than any other type of argument, while in Sweden and Norway these ranked second (Oskarson and Ringdal 1998). It is worth noting that the overwhelming majority of these arguments referred to national economic concerns, the economic policies of the EU, *not* to one's personal economic situation. Moreover, traditional indicators of economic self-interest, such as class, occupation, sector of employment, and income, proved only modestly related to vote in the referendum, and proved inferior to variables such as ideological orientation and party sympathy in explanatory power, especially in Norway (Jenssen et al. 1995) and to some extent in Sweden (Gilljam 1996). The almost unanimous 'no' from Finnish and Norwegian farmers stands out as the exception to this general rule. At first glance, assessments of future personal and national economy seem to have had a strong bearing on EU vote, but the correlations proved to be inflated by the reciprocal relationship between attitude towards EU membership and economic assessments (Jenssen 1998). The effect of assessments of the national economy in the event of membership on vote among respondents undecided at the time of interviewing varied from 0.25 (tau-c) in Norway to 0.31 in Finland. Moreover, the economic assessments seemed unrelated to various indicators of economic position. Retrospective assessments of personal and national economy had no impact on vote whatsoever.

These findings are hardly surprising to researchers in the field of political behavior. Since the 1970s the importance of historical cleavages has waned in the electoral politics of many democracies (Franklin et al. 1992) and class voting is no exception (Evans 1999). The puzzle starts with the common-sense interpretation of the outcome of the three referendums: "Finland and Sweden joined the EU out of economic necessity, whereas Norway could afford to stay outside." This interpretation could easily be rejected as an example of ecological fallacy, but as Ingebritsen (1998, ch. 2) points out, this is a plausible argument in the structural school in studies of international politics. Ingebritsen herself focuses on "the political influence of leading (economic) sectors" in her effort to explain the outcome of the referendums. The symbolic importance (rather than the economic importance) of the primary sector was an obstacle to the integration policies of the Norwegian and Finnish governments, and in the end the lack of push towards membership from the oil

industry became decisive in Norway (Ingebritsen 1998, ch. 6). The least convincing side of this interesting argument is the question of how the economic interests of the various sectors transformed into votes. The same criticism can be directed at Moses and Jenssen (1998) in their analysis of the impact of economic structure, more specifically the importance of export dependency and sheltered sectors. With five independent variables describing the regional economy, they were able to "explain" 57% of the variance in EU vote at county level in the three countries. The explanatory power was increased to 75% with the introduction of nation-dummy variables and interaction terms. These results stand out in sharp contrast to the meager 9 percent explained variance in their (near) equivalent individual-level test of the model. Moses and Jenssen (1998) discussed some of the possible reasons for the feeble results of the individual-level analysis, but offered no clues when it came to the striking inconsistency between the individual-level and aggregate-level results.

THE ENIGMA

This level-of-analysis enigma is not new to social science in general and to students of economic voting in particular. Robinson (1950) noted that ecological correlations tended to increase with the size of the aggregate units, and explained this phenomenon as the result of the reduced error variance in aggregate-level variables. Several attempts have been made to handle this problem by means of ever more sophisticated statistical procedures. We explore another trail: theoretical discussion of cross-level effects combined with advanced multilevel modeling.

From opposite positions, rational choice theory and conflict theory end up with the same prediction about the micro-macro link: a perfect congruence between the microlevel behavior of individuals and the observed pattern on the aggregate level. As long as there are no intervening aggregate mechanisms involved, the referendum result on an aggregate level is nothing more and nothing less than the sum of the individual votes. In referendums, the normal rules of electoral systems are put aside so that voters have no reason to vote strategically. According to conflict theory, individuals act as group members and adapt to the political position of the group to which they belong. Any election outcome is thus the result of the relative size of the interest groups in the constituency. Anyone voting against his or her interest group is "deviant" and

unaccounted for by this model in its most simplistic version. These two traditions have little to offer when it comes to the level-of-analysis enigma.

The cross-pressure argument (Lazarsfeldt et al. 1948) takes the same starting point as conflict theory: individuals adapt to group norms and standards. The cross pressure is the result of multiple group memberships and incompatible group interests. The voter can be torn between loyalty to the union and loyalty to the Church, or between loyalty to the family and loyalty to the party, and so on. To re-attain peace of mind, the individual withdraws from political life. Translated into economic voting, a voter might find it hard to vote when personal economic interests conflict with the economic interests of significant others, such as relatives, community, or region. This argument could be taken one step further. According to classical reference group theory (Hyman 1968), individuals might identify with and adopt the norms of groups to which they do not (formally) belong. Eisenstadt (1954) argues that this is not an unusual "solution" to a cross-pressure situation. Groups perceived as superior in power, status, or importance are more likely to become reference groups. In practical terms, this means that in a community dominated by agrarian interests, even a banker might start to think as a farmer.

Herbert Tingsten's (1937: 230) "law of the social center of gravity" supplements the reference group argument. According to Tingsten, individuals are more likely to participate and to act politically according to group interests when the group is large, i.e. the larger the group, the more conforming the behavior of its members. A worker is more likely to vote like a worker (i.e. a socialist) in a working class milieu than in a more diverse context. Huckfeldt and Sprague (1995) used a probabilistic communication model to demonstrate that groups tend to become more homogeneous in their political attitudes over time (given the greater likelihood of encountering someone with the majority view and assigning equal weight to all encounters). According to this argument, it is not necessary to assume the existence of conforming pressure to account for uniform political views within a group.

We might extract two arguments from this: Individuals who experience their political attitudes being met with hefty opposition may either subordinate (by changing their views in line with the dominant position)

or withdraw from the political arena if all possible positions stir the same amount of controversy. On the other hand, those who come to realize that they share the majority position may be more likely to speak out in public, more likely to take part in campaigns, and more likely to vote than they normally would. We can label this a *subordination effect* and a *reinforcement effect,* respectively. The subordination effect and the reinforcement effect cannot be modeled simply by adding contextual variables in an individual-level regression. Subordination and reinforcement effects are cross-level interaction effects; they describe how contextual variables modify the effect of individual-level variables.

In the literature on economic voting, the level-of-analysis enigma has been handled in different ways. Most researchers in this field have relied on aggregate-level data (Nannestad and Paldam 1993), and some have flatly rejected the whole question by arguing that individual-level data are notoriously unreliable and should be ignored altogether (cf. Kramer 1983). This is hardly surprising, given the history of this subfield. According to Lewis-Beck and Paldam (2000: 113) "Economic voting is a field that mixes economics and political science and does so by the means of econometrics". Marcus (1988), on the other hand, has pointed out shortcomings of the macro-level approach when it comes to discerning the effects of public policies and personal economic situation, and suggests the use of pooled election surveys as time-series data to overcome the problems of (synchronic) cross-sectional data discussed by Kramer (1983). The level-of-analysis debate is strongly linked to two other controversies within this field: the prospective versus retrospective voting argument, and the pocketbook voter (or "egotropic") versus sociotropic voter debate. Researchers inspired by rational choice theory favor the prospective pocketbook voter position, whereas a majority of the empirical studies favor the retrospective and sociotropic positions (Lewis-Beck 1986, 1988, Nannestad and Paldam 1993,1994, Lewis-Beck and Paldam 2000). The description of the sociotropic voter is of direct relevance to our argument. According to Kinder and Kiewiet (1979, 1981), voters in general are motivated not by their personal economic grievances, but by "collective economic judgments". These judgments are not a product of their personal economic situation but rather a blend of their impressions of changes in the national economy, but also of their ideological leanings and party identification. In their empirical analyses, sociotropic assess-

ments – after statistical control for party identification – have more explanatory power than assessments related to the personal economic situation.

In the research of Kinder and Kiewiet and their followers (for example, Marcus 1988, Lewis-Beck 1988), the focus has been on assessments of the national economy. The nation functions as the "frame of reference" or "reference group" for obvious reasons: in most countries the national media tend to focus more on the national economy than on regional economic concerns or the economy of households (unless households are used to illustrate national economic trends). Nevertheless, it is interesting to study whether subnational units may play the same role for two reasons. First, a brief look at a map displaying the referendum results on the level of municipalities (Ringdal and Valen 1988) or counties (Pesonen et al. 1998) provokes the question: what created this remarkable geographical variation? Second, the opposition to EU membership was partly conceptualized as a territorial conflict. One of the slogans of the Norwegian No-movement was: "Oslo is far away, but Brussels is even further". In this slogan the conflict of interests between the capital (Oslo) and regional interests is extended to a conflict between regional interests and Brussels as a symbol of the EU. Either voters can take their regional interests into account independently of other concerns (such as their personal economic well-being), or they can let the interests of the region interact with their individual interests to *reinforce* the importance of their personal economic interests or to *subordinate* their personal interests. In technical terms, this can be called a cross-level *interaction* effect. The social gravity and reference group effects must be distinguished from contextual effects (i.e. *all* citizens in a given context are affected to the same extent and in the same direction). Both the social gravity hypothesis and the reference group hypothesis describe strong cross-level contextual effects working in the same direction: the individual voter tends to go along with the community or group; reluctantly in the case of subordination, enthusiastically if under the influence of social gravity.[2]

An implicit assumption of this approach is that the citizen is familiar with the dominant conception of the community's best interest. Is this a realistic assumption? In Nordic political discussions, several political parties present competing economic polices to the voters. Although usu-

ally fairly general, these policies all have their distinctive "twist", often by focusing on some particular group or interest. Nevertheless, the chances are small that a local community will unite behind the economic policies of one political party (the exception being very small and homogeneous communities) in general elections. The bipolar nature of the EU issue – or more precisely the EU vote – tended to change the structure of the public debate (Jenssen 1995). Different arguments, even arguments "normally" considered inconsistent, tended to merge into pro-EU and con-EU rhetoric.[3] It could therefore be argued that the reduced political complexity of the referendum creates favorable preconditions for reference group and social gravity effects.

To conclude, there is ample evidence in the voter behavior literature for assuming that complex contextual effects influence individual behavior. For this reason, it is unreasonable to dismiss the apparent contradictions of results generated at different levels of analysis as a simple measurement problem. Rather, it behooves us to attempt to capture these potential contextual effects with new models. This is the objective in the following section.

MATERIAL AND METHODS

This article is based on data from the Nordic referendum surveys conducted in Finland, Sweden, and Norway during the autumn of 1994 – surveys containing a set of common core questions agreed upon by a Nordic project group with researchers from all three countries. Pertti Pesonen headed the Finnish survey, Michael Gilljam and Sören Holdberg the Swedish, and Anders Todal Jenssen and Henry Valen the Norwegian survey. *Suomen Gallup, Oy* conducted the interviewing in Finland. In Sweden *Statistics Sweden* and in Norway *Statistics Norway* were responsible for the fieldwork. The main results from these surveys were published in the respective native languages, prepared by the national research teams, and in a joint book in English: *To Join or Not to Join* (Jenssen et al. 1998).

A co-Nordic data file was constructed at the Department of Sociology and Political Science, the Norwegian University of Science and Technology (NTNU) in Trondheim. Our study is based on the pooled data set with the addition of data describing counties (in all three countries) and municipalities (in Norway only).

Table 1 is an overview of the pooled referendum file, totaling 7612 cases (gross *n*): 1559 from Finland, 2700 from Sweden, and 3353 from Norway. In Norway, voters from peripheral municipalities were purposely over-represented and young voters and male voters were over-represented due to non-random sample attrition. Since these sample peculiarities are unlikely to affect the results of our multilevel analyses, case weights have not been applied to the Norwegian sample.[4]

EU ATTITUDE VARIABLES Our three dependent variables measuring EU attitudes are presented in Table 1 for each country separately, and descriptive statistics for the pooled file are presented in Table 2. The *EU scale* is based on the following variables: *Preferences*, *Support*, and a *Rating scale*. The *Preferences* variable ranges from "1" (for "Neither membership nor EEA") to "5" (representing "members of the EU as a United States of Europe"). *Support* is scaled from 1 (a "firm No" to EU membership) to 5 (a "firm Yes"). The 10-point rating scale, from 0 ("Very negative") to 10 ("Very positive"), is respondents' indications of their own EU attitudes. To ensure comparability with the other two items, the rating scale scores were divided by 2. The *EU scale* scale is computed as the mean of at least two valid answers to these three questions. The resulting scale thus varies from 0.5 to 5. Internal consistency of the scale, as measured by Cronbach's alpha, is most satisfactory (0.91).

TABLE 1. *An overview of the pooled referendum file with means for the EU attitude variables for each country*

		Finland	Sweden	Norway
Age	Age in 10 years	4.25	4.50	4.39
Male	1=male, 0=female	0.51	0.53	0.54
EU scale	EU attitude scale	2.98	2.85	2.46
Person	Effect of EU membership on personal economy	1.96	2.02	1.85
Nation	Effect of EU membership on national economy	3.67	3.38	2.89
Gross *n**		1559	2700	3353
Net *n**		1438	1802	3270

Gross *n*: number of cases in total. Net n: cases with valid values for the x-variables, i.e. the maximum number of cases available for analysis.

The *Person* and *Nation* variables are each based on a single question concerning evaluation of the future economic consequences of EU membership. *Person* captures respondents' evaluations of the effects of EU membership on their personal economy. It has only three values: 1 ("Noticeably worse"), 2 ("Not affected"), and 3 ("Noticeably better"). *Nation* reflects the respondents' concerns for the effect of EU membership on the national economy. The response categories range from 1 ("Great worsening"), through 3 ("Neither"), to 5 ("Great improvement").[5]

Table 1 indicates how the three variables capture the differences between countries in voting behavior. Finnish voters were the strongest supporters of EU membership, followed by Swedish and then Norwegian voters. The percentages of yes-votes in the referendums were: 56.9 in Finland, 52.3 in Sweden, and 47.7 in Norway. Differences between the countries were smallest when evaluating consequences on the personal economy; on this variable, Swedish voters scored as high as Finnish voters.

MULTILEVEL ANALYSIS The two multilevel analyses in this article[6] are performed with Mlwin software (Goldstein et al. 1998), which enables us to split the variance in the dependent variables between levels and to estimate effects of regressors at both levels, as well as cross-level interactions, with correct estimates of standard errors.[7] The first analysis uses data from all three of the Nordic countries, where the highest level of aggregation is the county (fylke or län). In this analysis, individual voters constitute level 1 and counties level 2 in the multilevel analysis. Because there is no a priori reason for choosing the county level for measuring contextual effects, the second analysis uses Norwegian data to examine potential contextual effects at the municipal level. In this analysis, municipalities, not counties, constitute the second level in the multilevel tests.

DESCRIPTION OF THE VARIABLES Table 2 gives the variables used in the multilevel regression model. The explanatory variables reflect the type of economic argument employed at both microlevel and macrolevel. The variables themselves can be organized according to level. The first group includes variables reflecting the individual attributes of voters (e.g. occu-

pation, as well as general demographic details); the second group considers county-level attributes (e.g. percentage employed in a given sector in a given county).

TABLE 2. *Descriptive statistics for the variables in the three-country multilevel analysis, n min. = 5942*[a]

Variable	Labels, values	Mean	Std	Min.	Max.
EU scale	EU attitude scale	2.68	1.29	.50	5.00
Person	Effect of EU membership on personal economy	1.92	.54	1.00	3.00
Nation	Effect of EU membership on national economy	3.20	1.02	1.00	5.00
Country	Categorical regressor				
Norway	Reference category	–	–	–	–
Sweden	1=Sweden, else=0	0.28	0.45	0	1
Finland	1=Finland, else=0	0.22	0.41	0	1
Male	1=male, 0=female	0.53	0.50	0	1
Education	Years of education	4.32	2.71	.00	8.00
Age	Age in 10 years	4.39	1.65	1.80	8.80
Private	Private sector: 1=yes, 0=no	0.47	0.50	0	1
Occupational class	Categorical regressor				
Low	1=low non-manual, else=0	0.26	0.44	0	1
High	1=high non-manual, else=0	0.11	0.32	0	1
Self-employed	1=self-employed, else=0	0.07	0.26	0	1
Farmer	1=farm, else=0	0.06	0.23	0	1
Student	1=student, else=0	0.07	0.26	0	1
Missing	1=no occupation, else=0	0.08	0.27	0	1
Manual workers	Reference category	–	–	–	–
Swedish farmer	Farm by Sweden interaction: 1=Swedish farmers, else=0	0.01	0.09	0	1
Unemployed	1=unemployed, else=0	0.07	0.25	0	1
Union	1=unionized, else=0	0.53	0.50	0	1
High income	1=high income, else=0	0.24	0.43	0	1
Individual sheltered	1=sheltered sector	0.38	0.49	0	1
Individual missing	1=sector missing	0.15	0.35	0	1
Primary[b]	Primary sector (%)	6.33	4.27	0.39	17.09
Sheltered[b]	Sheltered sector (%)	50.27	5.34	38.87	62.13
Farmer interaction[c]	Farmer by Primary interaction	0.53	2.40	0.00	17.09
Sheltered interaction[c]	Individual sheltered by Sheltered interaction	19.44	24.84	0.00	62.13

[a] *n* varies, minimum *n*=5942 for Person. Std: standard deviation.
[b] A level 2 variable, i.e. a contextual (county) characteristic.
[c] A cross-level interaction.

The respondents' country is represented by dummy variables for Sweden and Finland, while Norway is omitted as the reference category. The gender variable, *Male*, takes the value of "1" for male respondents and "0" for females. *ED* represents the respondents' years of schooling in addition to the compulsory level of education. A respondent's *Age* is measured in 10-year units (i.e. age divided by 10). *Private*, a dummy variable used to capture employment in the private sector, is scored "1" for respondents employed in the private sector and "0" otherwise. Occupational class is represented by the following set of dummy variables: *Low* (low non-manual), *High* (high non-manual), *Self* (*self-employed*), *Farmer* (farmers in Norway and Sweden), *Swedish farmer*, *Student* and *Missing* (no occupation). Manual workers (skilled and unskilled) are excluded as the reference category. *Unemployed* takes the value "1" for currently unemployed persons and *Union* the value "1" for unionized employees. *High income* is a dummy variable with the value of "1" for persons in the upper quartile of the income distribution and "0" otherwise. *Individual sheltered* captures whether the individual is working in a non-primary sheltered industry and *Individual missing* takes the value of "1" for persons who are missing their industrial code.

In this model there are four county-level variables, two of which capture interaction effects. *Primary* is a county-level regressor measuring the percentage of persons employed in the primary sector. *Sheltered* measures the percentage employed in sheltered industries in each county. The final two terms capture cross-level interactions: the *Farmer interaction* captures the farm by primary sector interaction while the *Sheltered interaction* captures the interaction between variables tapping sheltered industries at the individual and county levels.

COUNTY-LEVEL RESULTS Table 3 gives estimates of the simplest possible variance component model with no regressor, one for each dependent variable:

$$Y_{ij} = \beta_{o\,j} + u_{o\,j} + e_{ij}$$

In this model, the subscript i varies across the level-1 units (voters) and the subscript j varies across the level-2 units (counties). The subscript j on the regression constant shows that it may vary among counties. S_e denotes the individual-level variance, i.e. var(e_{ij}), and S_u the county-level

variance, var(u_j). S_{error} is the standard errors of the variance components. Large *t*-ratios (not displayed) show that all three level-2 variances are statistically significant at the 0.05 level. This indicates that the intercepts vary among counties. The size of the level-2 variance (relative to the level-1 variance) is captured by the intra-class correlation coefficient reported in the column labeled *IC-corr.* The variation among the counties constitutes around 8 percent of the variance for *EU scale*, 5 percent for *Person*, and close to 13 percent for the *Nation* variable. None of these figures can be considered large, but they are not so small that they can be readily ignored. Hence, we proceed with the multilevel analysis.

TABLE 3. *Estimates of variance components and intra-class correlations*

	Level 1	voters	Level 2	counties		
	S_e	S_{error}	S_u	S_{error}	IC-corr.	n_1
EU scale	1.522	0.027	0.126	0.028	0.076	6378
Person	0.276	0.005	0.015	0.004	0.051	5942
Nation	0.884	0.016	0.128	0.027	0.127	6140

S_e: variance at level 1. S_u: variance at level 2. S_{error}: standard errors of variance components. *IC-corr.*: intra-class correlation, i.e. proportion of level 2 variance. n_1: number of voters. n_2=54 (counties)

The next step in the analysis is to introduce the x-variables and estimate the expanded variance component model.[8] This is done in three steps. In Model 1, the individual-level regressors are introduced; in Model 2 the county-level regressors are added; and in Model 3 the cross-level interaction is added. The results are reported in Tables 4–6, one table for each of the dependent variables.

Table 4 reports the results for the EU attitude scale. These parallel the results reported in Ringdal and Valen (1998). Both Swedish (+0.3) and Finnish (+0.4) voters show higher average scores on the *EU scale* (i.e. they tend to be more positive to EU membership than the Norwegian voter). On average, men score about 0.3 points higher than women. Both years of education and age are positively related to the EU scale, which suggests that attitude towards EU membership became more positive with an increase in age and level of education.

Table 4 then lists a set of variables related to work. The positive coefficient for *Private* shows that those working in the private sector – on

TABLE 4. *Regression of the EU scale on individual- and county-level regressors, n_1=6378 voters, n_2=54 counties. Two-level model estimated by Mlwin*

	Model 1		Model 2		Model 3	
Regressors	**b**	**se**	**b**	**se**	**b**	**se**
Constant	1.550 •••	0.100	3.737 •••	0.359	3.867 •••	0.360
Country						
Sweden	0.302 •••	0.080	0.199 •••	0.059	0.199 •••	0.059
Finland	0.496 •••	0.095	0.274 ••	0.092	0.279 ••	0.092
Male	0.294 •••	0.032	0.295 •••	0.032	0.303 •••	0.032
Education	0.061 •••	0.007	0.061 •••	0.007	0.059 •••	0.007
Age	0.079 •••	0.011	0.078 •••	0.011	0.079 •••	0.011
Private	0.192 •••	0.040	0.187 •••	0.040	0.201 •••	0.041
Occupational class						
Low	0.153 •••	0.042	0.151 •••	0.042	0.147 •••	0.042
High	0.304 •••	0.057	0.306 •••	0.057	0.306 •••	0.057
Self-employed	0.309 •••	0.064	0.306 •••	0.064	0.300 •••	0.064
Farmer	-0.762 •••	0.074	-0.757 •••	0.074	-0.422 •••	0.205
Student	0.393 ••	0.134	0.388 ••	0.134	0.414 ••	0.134
Missing	0.101	0.118	0.098	0.118	0.126	0.118
Swedish farmer	0.774 •••	0.184	0.774 •••	0.183	0.804 •••	0.198
Unemployed	-0.195 •••	0.062	-0.200 ••	0.062	-0.197 ••	0.062
Union	-0.077 ••	0.033	-0.074 ••	0.033	-0.084 ••	0.033
High income	0.237 •••	0.038	0.237 •••	0.038	0.238 •••	0.038
Individual sheltered	-0.128 •••	0.041	-0.127 ••	0.041	-0.535 ••	0.116
Individual mMissing	-0.089	0.124	-0.087	0.124	-0.105	0.124
Primary			-0.036 •••	0.007	-0.035 •••	0.007
Sheltered			-0.037 •••	0.006	-0.039 •••	0.007
Farmer interaction					0.007	0.015
Sheltered interaction					0.009 •••	0.002
S_u	0.050 •••	0.012	0.017 ••	0.006	0.017 ••	0.006
S_e	1.364 •••	0.024	1.364 •••	0.024	1.361 •••	0.024
-2LL	20162.9		2124.5		2109.9	

b: regression coefficients, se: standard error of b, see also notes to Table 2.
• Significant at the 0.1 level. •• Significant at the 0.05 level. ••• Significant at the 0.01 level.

average – score about 0.2 higher on the scale than those employed in the public sector (or for whom the sector of employment is unclear). There follows a set of dummy variables representing occupational class. Most of these coefficients are positive, and this indicates that both the non-manual and the self-employed categories scored higher on the *EU scale* than did the other workers (the reference category). Norwegian and

Finnish farmers, on the other hand, are the most negative towards EU membership, and score about 0.8 points below workers. The coefficient for Swedish farmers is about the same, but with the opposite sign, which means that the scores for Swedish farmers are close to the average held by the reference workers.

The following two coefficients suggest that both "unemployed" and "unionized" are two individual characteristics pulling in the opposite direction to EU membership. The dummy variable for high incomes also has a positive sign, indicating that high-income respondents tend to be more likely to support EU membership. Finally, employment in a sheltered sector (as opposed to an exposed sector) is accompanied by a lower score (–0.13) on the EU scale.

The individual-level regressors are kept in Model 2, and two county-level regressors (*Primary* and *Sheltered*) are added. As expected, the signs of both coefficients are negative. Increases of 10 percent, either in the primary or in the sheltered sector, lower the expected score on the EU scale by 0.36 points.

Finally, in Model 3 we add two cross-level interactions: the *Farmer* and the *Sheltered interaction*. Both show positive signs, contrary to our expectations. While the coefficients are very small, the cross-level interaction for the sheltered sector is statistically significant at the 0.05 level. Therefore, the main finding from Model 3 is that while there are no substantial cross-level interactions, the two county-level regressors show uniform effects.

Table 5 reports the same models, but applied to *Person*: evaluations of the economic consequences of EU membership on the personal economy of the voter.[9] The effects of the individual-level variables in Model 1 largely parallel those in Table 4, although some are weaker. The main difference is the change of signs on the age coefficient. The negative coefficient in Table 5 means that the older the person, the less likely he/she is to expect positive economic benefits from EU membership.

The results for the contextual variables added in Model 2 also parallel the results for the EU scale, though the effects are weaker. As expected, we found that both the *Primary* and the *Sheltered* variables had negative and significant effects. Finally, the results for the cross-level interactions in Model 3 are as disappointing as they were in Table 4. Although the *Farmer interaction* shows the expected negative sign, *Sheltered* does not, and none of the coefficients show statistically significant effects.

TABLE 5. *Regression of Person on individual- and county-level regressors, n_1=6378 voters, n_2=54 counties. Two-level model estimated by Mlwin*

	Model 1		Model 2		Model 3	
Regressors	**b**	**se**	**b**	**se**	**b**	**se**
Constant	1.751 •••	0.042	2.217 •••	0.167	2.244 •••	0.168
Country						
Sweden	0.139 •••	0.029	0.118 •••	0.027	0.122 •••	0.027
Finland	0.113 ••	0.034	0.062	0.043	0.062	0.043
Male	0.089 •••	0.014	0.089 •••	0.014	0.091 •••	0.014
Education	0.020 •••	0.003	0.020 •••	0.003	0.020 •••	0.003
Age	-0.016 ••	0.005	-0.016 ••	0.005	-0.016 ••	0.005
Private	0.068 •••	0.018	0.066 •••	0.018	0.071 •••	0.018
Occupational class						
Low	0.045 ••	0.019	0.045 ••	0.019	0.045 ••	0.019
High	0.081 ••	0.025	0.082 ••	0.025	0.082 ••	0.025
Self-employed	0.126 •••	0.028	0.125 •••	0.028	0.125 •••	0.028
Farmer	-0.409 •••	0.033	-0.407 •••	0.033	-0.199 ••	0.092
Student	-0.024	0.061	-0.024	0.061	-0.020	0.061
Missing	-0.081	0.054	-0.081	0.054	-0.077	0.054
Swedish farmer	0.431 •••	0.081	0.427 •••	0.081	0.365 •••	0.088
Unemployed	-0.036	0.028	-0.037	0.028	-0.036	0.028
Union	-0.038 ••	0.015	-0.037 ••	0.015	-0.038 ••	0.015
High income	0.015	0.017	0.015	0.017	0.015	0.017
Individual sheltered	-0.019	0.018	-0.018	0.018	-0.108 ••	0.053
Individual missing	0.116 ••	0.056	0.116 ••	0.056	0.115 ••	0.056
Primary			-0.007 ••	0.003	-0.006	0.003
Sheltered			-0.008 ••	0.003	-0.009 •••	0.003
Farmer interaction					-0.012	0.007
Sheltered interaction					0.002	0.001
S_u	0.005 ••	0.002	0.004 ••	0.001	0.004 ••	0.001
S_e	0.255 •••	0.005	0.255 •••	0.005	0.255 •••	0.005
–2LL	8795.5		8785.4		8779.4	

b: regression coefficients, se: standard error of b, see also notes to Table 2.
• Significant at the 0.1 level. •• Significant at the 0.05 level. ••• Significant at the 0.01 level.

In Table 6, the analysis is repeated for *Nation*: the expected economic effects of future EU membership on the nation's economy. Again the results for Model 1 are roughly parallel to those in Tables 4 and 5, and invite no additional comment. In Model 2, the two contextual variables are both negative and statistically significant. They are also roughly the

same size as for the EU scale (–0.026). However, the cross-level effects in Model 3 are not statistically significant (though the sign for the *Farmer interaction* is in the expected direction).

TABLE 6. *Regression of Nation on individual- and county-level regressors, n_1=6378 voters, n_2=54 counties. Two-level model estimated by Mlwin*

	Model 1		Model 2		Model 3	
Regressors	**b**	**se**	**b**	**se**	**b**	**se**
Constant	2.440 •••	0.076	3.676 •••	0.279	3.713 •••	0.280
Country						
Sweden	0.432 •••	0.057	0.359 •••	0.046	0.363 •••	0.046
Finland	0.785 •••	0.068	0.686 ••	0.072	0.686 ••	0.072
Male	0.254 •••	0.025	0.254 •••	0.025	0.256 •••	0.025
Education	0.052 •••	0.006	0.051 •••	0.006	0.051 •••	0.006
Age	0.010	0.009	0.008	0.009	0.009	0.009
Private	0.084 ••	0.032	0.081 ••	0.032	0.087 ••	0.032
Occupational class						
Low	0.088 ••	0.033	0.087 ••	0.033	0.087 ••	0.033
High	0.129 ••	0.045	0.131 ••	0.045	0.132 ••	0.045
Self-employed	0.118 ••	0.050	0.117 ••	0.050	0.117 ••	0.050
Farmer	-0.463 •••	0.059	-0.456 •••	0.059	-0.179	0.162
Student	0.195	0.107	0.194	0.107	0.199	0.107
Missing	0.119	0.095	0.120	0.095	0.126	0.095
Swedish farmer	0.600 •••	0.143	0.598 •••	0.143	0.518 •••	0.155
Unemployed	-0.168 •••	0.049	-0.171 ••	0.049	-0.172 ••	0.049
Union	-0.024	0.026	-0.021	0.026	-0.023	0.026
High income	0.155 •••	0.029	0.154 •••	0.029	0.154 •••	0.029
Individual sheltered	-0.112 •••	0.032	-0.112 ••	0.032	-0.232 ••	0.093
Individual missing	-0.145	0.099	-0.147	0.099	-0.148	0.099
Primary			-0.026 •••	0.005	-0.025 •••	0.005
Sheltered			-0.020 •••	0.005	-0.021 •••	0.005
Farmer interaction					-0.016	0.012
Sheltered interaction					0.003	0.002
S_u	0.024 •••	0.006	0.010 ••	0.004	0.010 ••	0.004
S_e	0.810 •••	0.015	0.810 •••	0.015	0.810 •••	0.015
–2LL	16202.2		16173.6		16170.0	

b: regression coefficients, se: standard error of b, se also notes to Table 2.
• Significant at the 0.1 level. •• Significant at the 0.05 level. ••• Significant at the 0.01 level.

We might end this section with a short summary of the findings thus far. The individual-level effects are comparable to those reported in Ringdal and Valen (1998). In addition, the significant effects associated with the percentage employed in primary and sheltered industries suggest that these variables have uniform effects on the average score for the dependent variables. Most disappointingly, we found no substantial cross-level effects.

MUNICIPAL-LEVEL ANALYSIS Rather than conclude the empirical part of the paper at this point, we have chosen to test the argument at another level of aggregation. After all, there is no a priori reason to expect that the contextual effects we are in search of can (or should) be located at the county level. Indeed, the primary administrative and political units in the Nordic countries are municipalities, not counties. Counties are not only much larger, they are (not surprisingly) much more internally heterogeneous than municipalities. For this reason, we test the argument on data aggregated at this, lower, level. Unfortunately, the following analysis is restricted to Norway, because of a lack of municipal-level data for Finland and Sweden.

Nevertheless, there are several good reasons for using Norwegian municipal-level data. First of all, the existing literature suggests that Norwegians are more locally oriented than their Nordic neighbors are. According to the World Values Study data from 1990–91 (Inglehart et al., 1998), 69 percent of Norwegians claim that they belong to "the locality or town where they live" rather than to the country, the continent, or the world as a whole. Indeed, Norway ranks first of the 43 countries included in the World Values Study in this respect (the numbers for Sweden and Finland are 56 percent and 33 percent, respectively). In addition, Huseby and Listhaug (1995) found that Norwegians' lack of identification with Europe (and implicitly their identification with the subnational level) was related to the reluctant and even hostile attitudes towards European integration among many Norwegians. Hence, there are good reasons to extend the test to the municipal level on Norwegian data: the chances of finding contextual effects and cross-level interactions seem promising.

The municipal-level analysis consists of 3205 voters at level 1 and 212 municipalities at level 2. Table 7 reports estimates of the variance com-

TABLE 7. *Estimates of variance components and intra-class correlations, Norwegian sample*

	Level 1 voters		Level 2 municipalities			
	S_e	S_{error}	S_u	S_{error}	IC-corr.	n_1
EU scale	1.449	0.037	0.169	0.029	0.104	3274
Person	0.210	0.005	0.017	0.003	0.076	3101
Nation	0.763	0.020	0.073	0.014	0.087	3115

S_e: variance at level 1, S_u: variance at level 2, S_{error}: standard errors of variance components, *IC-corr.*: intra-class correlation, i.e. proportion of level 2 variance.
n_1: number of voters, n_2=212 (municipalities).

ponents of the model with only an intercept. The level-2 variance components are all statistically significant, but the intra-class correlations are not generally higher than for the previous, county-level, analysis.

Based on the results from the county-level analysis, we have restricted the municipal-level analysis to one dependent variable: the EU scale. The individual-level model is similar to the one in the earlier analysis, except that the country dummy variables are omitted. The private sector indicator has been replaced by a dummy variable for public sector (*Individual public*) constructed from the industrial sector classification. In addition, the contextual variable tapping the percentage in the sheltered sector has now been split into public and private. The results generated by this analysis are also similar to the previous findings.

It can be seen from Table 8 that the contextual variables and their counterparts at the individual level are more detailed than in the county-level analysis. *Induvidual public* takes the value of "1" for persons working in industries defined as public. *Individual sheltered* represents persons working in private industries in the sheltered sector. The results suggest that those employed in the public sector are significantly more negative towards EU membership than other employees are. Being employed in a private sheltered industry, however, does not seem to have any effect at all.

The following contextual variables were entered in Model 2: *Primary 1980* (the percentage employed in the primary industries in each municipality in 1980), *Public 1980* (the percentage employed in the public sector in 1980), and *Sheltered 1980* (the percentage employed in sheltered industries in 1980). The primary sector effects are as expected, though

weaker than in the county-level analysis. On the other hand, there does not appear to be any relationship between percentage of those employed in the public sector and the EU scale. Finally, the percentage employed in sheltered industries shows a significant and negative effect, which is in accordance with our expectations.

TABLE 8. *Regression of the EU scale on individual- and municipal-level regressors, n_1= 3205 voters, n_2=212 municipalities. Two-level model estimated by Mlwin*[a]

	Model 1		Model 2		Model 3	
Regressors	**B**	**se**	**b**	**se**	**b**	**se**
Constant	1.764 •••	0.104	2.564 •••	0.227	2.590 •••	0.226
Male	0.295 •••	0.046	0.287 •••	0.046	0.282 •••	0.046
Education	0.042 •••	0.010	0.040 •••	0.010	0.039 •••	0.010
Age	0.057 •••	0.015	0.055 •••	0.015	0.054 •••	0.015
Occupational class						
Low	0.141 ••	0.063	0.134 ••	0.063	0.096	0.079
High	0.312 •••	0.079	0.295 •••	0.079	0.219 ••	0.096
Self-employed	0.187 •	0.093	0.185 ••	0.092	0.371 ••	0.130
Farmer	-0.892 •••	0.091	-0.762 •••	0.092	-0.932 •••	0.178
Student	0.536 ••	0.215	0.525 ••	0.214	0.521 ••	0.213
Missing	0.286	0.192	0.280	0.191	0.277	0.191
Unemployed	-0.108	0.133	-0.101	0.132	-0.105	0.132
Union	-0.021	0.047	-0.031	0.046	-0.030	0.046
High income	0.306 •••	0.056	0.294 •••	0.055	0.297 •••	0.055
Individual public	-0.319 •••	0.060	-0.294 •••	0.060	-0.305 •••	0.060
Individual sheltered	0.014	0.070	0.017	0.070	0.015	0.070
Individual missing	-0.456 ••	0.196	-0.452 ••	0.195	-0.455 ••	0.195
Primary 1980[b]			-0.020 •••	0.003	-0.022 •••	0.003
Public 1980[b]			0.001	0.006	-0.001	0.005
Sheltered 1980[b]			-0.020 •••	0.005	-0.020 •••	0.005
Farmer interaction[c]	Interaction: Farmer by Primary 1980				0.008	0.007
Low interaction[c]	Interaction: Low by Primary 1980				0.004	0.005
High interaction[c]	Interaction: High by Primary 1980				0.011	0.007
Self-employed interaction[c]	Interaction: Self-employed by Primary 1980				-0.017 ••	0.008
S_u	0.096 •••	0.020	0.032 ••	0.012	0.031 ••	0.013
S_e	1.333 •••	0.034	1.333 •••	0.034	1.333 •••	0.034
-2LL	10147.9		10081.5		10071.9	

[a] b: regression coefficients, se: standard error of b.
[b] A level 2 variable, i.e. a contextual •municipality) characteristics.
[c] A cross-level interaction.
• Significant at the 0.1 level. •• Significant at the 0.05 level. ••• Significant at the 0.01 level.

In Model 3 we entered the interaction of *Primary 1980* with the most important occupational categories as well as farmers. We proceeded cautiously, recognizing that the model now allowed for the possibility that the cross-level effect of the most important (overall) contextual variable could spill over onto other occupational groups. The results, however, suggest that this was not the case – although adding the four interaction terms reduces the –2 log likelihood significantly (9.6, d.f.=4, p=0.048). The main reason for this outcome is interaction with the self-employed. In general, those self-employed outside the farming sector were among occupational groups with the most positive attitudes to EU membership. However, the negative cross-level interaction shows that the expected score on the EU scale falls as the percentage employed in the primary industries rises. There are, no similar cross-level effects for farmers, however. It would thus appear that most Norwegian farmers were opposed to EU membership, irrespective of the regional contextual effects.

DISCUSSION

The likelihood of rational decision-making is an inverse function of the complexity of the issue at hand. The economic aspects of EU membership were probably far too complex for most voters to grasp. Nevertheless, most voters seemed able to form opinions on the economic consequences of EU membership for themselves and for the national economy, and these assessments correlated substantially with their EU vote (Jenssen 1998, table 9.4). So what type of input did voters rely on when they formed opinions on the economic aspects of EU membership?

In this article we have explored the possibility of two kinds of contextual effect: intercept and slope effects. Intercept effects are uniform and affect all voters in the same way by increasing or reducing the level of support for EU membership. For example, if the intercept effects are significant, we can expect voters (generally) to incorporate their community's economic interest within their own preferences (the intercept effects are what is usually labeled contextual effects). As the unit of reference is at the mesolevel, we might label this "mesotropic" voting to discern it from "sociotropic" voting (in which the nation as a whole serves as the point of reference). Slope effects arise from complex level-2 variation, i.e. the slopes vary across the level-2 units. Such effects are modeled by means of cross-level interaction terms. If these effects are significant,

it means that contextual variables interact (either reinforce or suppress) with individual-level economic interests.

This sort of variation is both important and relevant; we should be careful not to discard or ignore it as part of an ecological fallacy. It is important if only because it allows us to make sense of the empirical puzzle that we find in the mismatch between macro- and micro-level studies. We need to better understand why voters sometimes reflect their community interests and why they sometimes don't.

Inspired by the substantial aggregate-level correlations between economic variables and EU vote documented in past research, we have tried to identify how voters take the economic well-being of their county/municipality into consideration. In other words, we ask how voters are affected by the "common-sense" assessments of their community's interests. The results show consistent but modest uniform contextual (mesotropic) effects, and only one statistically significant cross-level interaction effect. The significant mesotropic effects suggest that voters (or at least a significant number of voters) take economic aspects of their community into consideration *in addition* to the emphasis they put on their personal economic position. The negative cross-level effect (Model 3 in Table 8) tells us that personal interests may be suppressed by contextual factors. In this model, the self-employed are significantly less likely to vote 'yes' when they live in municipalities with a high proportion of farmers. In other words, voters seemed to take their community's economic well-being into consideration, but – with one exception – voters with clear-cut individual interests were not more likely to do so than other voters. This makes political sense. Individuals with more clear-cut economic interests with respect to EU membership do not need to rely on contextual factors to help them sort out their position. Neither farmers nor the business elite needed contextual information to help them make up their minds on EU membership. Their interests appear relatively cut and dried. Cross-level interactions are more likely to occur for voters with inconsistent or dim personal interests in environments with strong interests (or, more precisely, in environments with strong common-sense assessments of group interests). Thus, voters whose interests are not entirely clear-cut appear to rely more on community interests when deciding how to vote on complicated issues.

One of the basic assumptions in the theoretical argument presented

here is that citizens belong to larger groups that offer guidance when they are called upon to decide about complex political issues. The credibility of this assumption can be discussed both generally and in relation to our empirical results. We have used both counties and municipalities as our units of aggregation. Implicitly, we assume that people think of themselves as part of these administrative units, and adopt their contextual position. We realize that this is a problematic assumption, and future research will need to address the problem more explicitly. Citizens are likely to be different in this respect. Some tend to think of themselves as members of the global community, while others are preoccupied with their neighborhood. The size of municipalities and counties varies in terms of number of inhabitants within countries and between countries. Identification with the municipality probably means something different to citizens living in small rural municipalities than it does to those living in the capital. Hence, the variables used in our empirical analyses are inaccurate at best.

Another problem associated with this type of contextualization concerns geographic community. When Tingsten (1937) and Lazarsfeldt et al. (1948) wrote on "social gravity" and "cross pressure", the sociological concept of "community" had strong geographical connotations. At the time, geographical (as well as social) mobility was limited. It therefore made sense to describe a citizen's milieu in terms of a spatially defined entity. However, new means of communication, transportation, and increased ease of mobility have challenged this description. New political communities disassociated with a specific location have emerged (Beck 1998). A person's "community" can now be described in terms of a network of friends, close relatives, and colleagues, widely scattered. More often than not, one's next-door neighbor is *not* part of this network. Although the term "individualization" is often used to describe this aspect of modern societies, we believe that the average citizen is still influenced by the political views approved by friends, close family, colleagues, and so on. However, we recognize that politically significant "others" are not necessarily found in the municipality or the county.

Tingsten (1937) and Lazarsfeldt et al. (1948) focused on how undecided and hesitant voters were coerced into a conformist position, or at least forced to conform their behavior. The results presented in this article largely describe a different situation: only a minority of voters can be

described as having clear-cut economic interests related to EU membership. Voters either did not belong to any of the groups directly affected, or their position within the group made their interests ambiguous.[10] This makes sense, and might be interpreted in ways consistent with much of the recent social-psychology research. For instance, Zaller (1992) argues that established cognitive schemas or "predispositions" tend to make voters "immune" to new information that is incompatible with their established beliefs. The citizen most likely to be persuaded into taking some stand on an issue is one with weak predispositions (i.e. diffuse interests) and sufficient awareness to receive the information.

EPILOGUE

We realize that our findings will not earn us a place in Norwegian political science's Hall of Fame next to the man who initially inspired our efforts. Nevertheless, we believe our efforts are in accordance with his spirit: constantly revising wavering hypotheses, always gathering more data, and running new empirical tests – forever. We will keep on trying, Henry.

Notes

1. An earlier version of this article was presented at the International Political Science Association Congress in Quebec, Canada, on 1–5 August 2000.

2. Noelle-Neumann's (1974, 1984) discussion of the "spiral of silence" and "upward spiral" of the majority resembles the classic discussions in political science, but her focus lies in the pressure to conform to a standard (majority) mediated by the mass media.

3. In Norway, for instance, leaders in both the Conservative and Labor parties have found common ground in values such as economic growth and a free world market, whereas the Left Socialist and the Center Party (the former Farmer's Party) have united in their opposition to deregulation and welfare cutbacks (Jenssen 1995). For a graphical presentation of Labor/Conservative agreement in Parliament prior to the referendum, see Moses (2000: 7).

4. Statistics Norway has included case weights to obtain more representative results for Norway. To get an idea of these effects on marginal distributions, the percentage of males drops from 54 to 49 when the weights are applied; similarly, the percentage of yes-votes increased from 45 to 48.

5. Using *Person* and *Nation* as dependent variables in a regression analysis is not without problems because of the limited set of values.

6. Basic introductions to multilevel analysis are Goldstein (1987) and Bryk and Raudenbush (1992). See also the *Multilevel Models Project*: http://www.ioe.ac.uk/multilevel/.

7. This is not completely true. The design allows us to control for clustering effects at the county level in the first analysis and clustering at the municipality level in the second. We have no information on the actual clusters used by the field organizations (although for Norway municipalities are often used as clusters).

8. We tested whether the most likely individual-level coefficients show signs of random variation across the counties. Since this search was negative, the effects of the x-variables are represented as fixed.

9. Due to the restricted range of values on the *Person* variable it is not strictly suited for regression models that assume a continuous dependent variable.

10. Under these conditions, simple economic characteristics of the individual, such as "class" or "sector of employment", might be problematic. The interest of public sector employees with respect to EU membership can vary significantly among rank-and-file healthcare workers and civil servants (on the one hand) and top rank civil servants (on the other). Indeed, civil servants may be as likely to think of EU membership in terms of career opportunities in the EU bureaucracy as they are in terms of a potential threat to the welfare state. One could argue that this group of voters – those with diffuse or ambiguous interests – was *more* receptive to economic arguments than those with well-defined interests.

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