

**Rational Choice? A Two-Level Analysis of the Nordic EU Referendums**

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The impetus for this paper is an empirical puzzle. In a previous work (Moses and Jenssen, 1997), my co-author and I employed a single, fairly parsimonious, model to explain political behavior at two distinct levels of analysis: the individual and the county (i.e., a higher level of aggregation). The puzzle began here: the model did not fit comfortably at both levels of analysis. To overcome this lack of fit, I began a series of alterations. As will become more clear below, my first response was to try again; with no luck. I then began to relax assumptions; this only introduced more problems. Finally, we are now trying to develop an even grander, more complex model. As work in the latter direction continues, I have begun a more radical (and speculative) query to the problem at hand. This paper airs that query with a hope at sparking a dialogue, and eventually (hopefully) reconciling the initial dilemma.

The query (argument is too strong a word) contains two parts. In the first section I introduce some of the empirical results which initiated the problem. Here I present some data from Moses and Jenssen (1997) which show how a narrowly defined rational choice argument goes some distance in explaining county-level referendum outcomes, but finds very little support in the individual-level data. I refer to this explanatory gap as the *inconsistency problem*. Our empirical work studies variance in Nordic (Finnish, Swedish and Norwegian) referendum outcomes on EU membership in 1994. Our data are from cross-national polls and county-level aggregate data.

The second part of the paper addresses potential solutions to the inconsistency problem. More traditional solutions include broadening the definition of rationality, allowing for different aggregation mechanisms, expanding the model's explanatory reach, and questioning the validity of the data themselves. All of these traditional methods of recourse harbor serious shortcomings. As a result, I conclude by questioning the utility of and justification for assuming a simple aggregation mechanism.

## **I. The Empirical Puzzle**

In a recent paper, Anders Todal Jenssen and I tested a rational choice argument at two different levels of analysis (Moses and Jenssen, 1997). Our original paper intended to explain EU referendum outcomes in Finland, Sweden and Norway by employing a rational choice model at the national, county and individual levels. While we found weak support for a rational choice argument, the data contained several apparent inconsistencies and contradictions. This paper keeps the county-level data, and introduces some new individual-level data to better flush out those inconsistencies. Before I introduce the new data, however, some background information may be useful.

On October 16th, 1994, 56.9% of voting Finns supported membership in the EU in an advisory referendum. Approximately one month later, on November 13th, 52.3% of the Swedish voting public followed suit. On November 28th, the Norwegian electorate had its chance. Norwegians, however, ended up rejecting membership by 52.3%. These aggregate figures are, however, somewhat deceiving, as there were strong geographic patterns which do not show up in the national figures. Figure 1 shows how opposition to EU membership in all three countries was strongest (and dominating) in the northern, rural counties, while support was focused in the southern, urban centers.

**Figure 1 about here**

In a nutshell, our argument was about political behavior based on economic interest. To the extent that an individual's livelihood was derived from association with EU member-states, we expected that individual to desire permanent or fixed relationships of exchange with EU member-states. We argued that this was true because non-membership threatens a fixed relationship of this sort in two ways. First, non-membership increases the likelihood of being caught outside an eventual (potential) "Fortress Europe." The greater the degree of integration,

the greater the costs of remaining outside a potential Fortress Europe. Second, and relatedly, non-membership excludes the formal (institutional) possibility of affecting policy choices that effect the very market relationships under consideration. Our working hypothesis was simple: the more economically integrated an entity is with the EU, the greater the likelihood for that entity to desire membership in the European Union.

#### *Aggregate level*<sup>1</sup>

The aggregate level test of our hypothesis was done in two batches of county-level data from each of the three countries. The first batch takes all of the county-level data from the three Nordic countries and runs a series of regressions on the most interesting employment variables. The raw data are presented in the Appendix. The aggregate data set includes 55 observations: 12 Finnish, 19 Norwegian, and 24 Swedish counties. The second batch then runs two dummy regressions which allowed us to control for specific sectoral effects *within* each of the three countries. Together, these regressions allowed us to evaluate the degree to which there was some linear relationship between the dependence of a given county on a specific sector (in terms of percentage of the population employed in that sector) with that county's referendum outcome.

The county-level data measure the relative strength of a variety of economic sectors in employment terms. Thus, it is important to get an overall view of the employment significance of the various sectors in each country. This is especially true as those sectors which are most significant in employment terms are not those which are most significant in income terms. Table 1 provides this (employment-based) information. In all three countries, the social services, sales

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<sup>1</sup>The original paper contains a much fuller explanation of the analysis, both aggregate and micro. See Moses and Jenssen (1997).

and manufacturing sectors are the strongest employers. The primary sector, despite its strong showing in Norway and Finland's export incomes, is a small employer in all three countries. Based on our hypothesis, then, we expected that those individuals which were employed in either the sales or manufacturing (i.e., exposed) sectors would support membership, whereas those employed in the more sheltered sectors (such as social services) would be opposed.

**Table 1 about here**

With the data available, we operationalized five sectoral variables (at the single-digit SITC level). They represent the percentage of the population employed in the: 1) primary sector [PRIMSEC<sup>2</sup>]; 2) public sector [PUBSEC]; 3) manufacturing sector [MANUF]; 4) the oil extraction, mining and quarrying industries [OIL]; and 5) wholesale and retail trade [TRADE]. Each variable was run in a series of bivariate and multivariate equations in both the aggregate and national batches.

*Aggregate data*

Whereas the mean vote was fairly similar in all three countries, the spread varied significantly across counties in all three countries.<sup>3</sup> As Norwegian opposition to EU membership was the strongest, it is not surprising to find the county with the strongest opposition to EU membership in Norway; consistently, the weakest opposition was found in Finland. On this data four different multivariate batches were run, in addition to several bivariate regressions. The bivariate regressions were used to check the robustness of specific relationships, and appear only

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<sup>2</sup>In particular, those employed in agriculture, fishing, forestry, and hunting.

<sup>3</sup>A list of the significant descriptive statistics for the batches is given in the Appendix.

in parenthetical references below.

Table 2 presents the findings of our multivariate aggregate batch regressions. In these regressions, national differences were overlooked to focus on the common political economy determinants of EU opposition among the Nordic countries. In Model A<sup>4</sup> we found statistically significant relationships for three of the four explanatory variables, MANUF, OIL, and TRADE. For the MANUF and TRADE variables we found a fairly strong and statistically significant relationship between the relative strength of employment in those sectors for a given county, and its support in the EU referendum. As the MANUF and TRADE sectors are the most outward-oriented sectors of the economy, these findings were consistent with our hypothesis. The same can be said, in reverse, for the findings with respect to the OIL variable. Indeed, all of the coefficient signs in this model were consistent with our theoretical expectations.

Table 2 about here

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<sup>4</sup>In the multivariate regressions we found a strong negative correlation between the PRIMSEC and TRADE variables, such that inclusion of them both as independent variables was problematic. This was especially true in the Finnish and Norwegian data. To control for this, we had to decide which of the two was to be included. This was no simple matter, as they both had their advantages in all of the models. Eventually we decided to run two models (A and B) for each set, but in our analysis we rely most heavily on the TRADE variable model (A), as this sector is more important, in employment terms, in all three countries.

<sup>5</sup>Among the bivariate regressions, the strongest relationship was between OIL and the referendum outcomes, but the scatter plot on these regressions suggest that the relationship is heavily influenced by the pull of three outlier counties: Norrbottens län in Sweden, and Rogalan and Finnmark fylker in Norway. On this variable there simply is not enough variation. Red flags are also tagged on the interpretive estimates in this model. The large beta-coefficient for the OIL variable suggests that the model is miss-specified. Thus, great care should be taken when interpreting the significance of the OIL variable in these regressions.

In Model B, the **TRADE** variable was replaced by one representing employment strength in the primary sector, **PRIMSEC**. This model was statistically more robust, with very strong t-scores and an  $R^2$  of .57. Together Models A and B supported our hypothesis. Counties which were heavily reliant on sheltered sector employment tended to oppose membership, while those employing more integrated sectors tended to support membership.

#### *National data*

The next set of regressions employed a series of dummy variables to capture the relationships *within* each country, the results of which can be found in Table 3. This parcellization was justified by assuming that some economic interests are more effectively organized in some countries than others; as a result, we expected to find national patterns of support. Still, national patterns closely mimicked the aggregate batch findings. In particular we continued to find a strong relationship between **TRADE** and/or **PRIMSEC** strength and support for Union membership across all three countries.

The Finnish data showed a strong relationship between a county's dependence (in employment terms) on the primary sector and its tendency to oppose the referendum. The same can be said, in reverse, of the **TRADE** variable's relationship to EU support. In the bivariate regressions run on these two variables (**TRADE** and **PRIMSEC**), both explained over half of the proportion of the referendum variance.<sup>6</sup> Among the Finnish variables, there were few surprises. In Model A the only significant variable remained **TRADE**, though its significance

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<sup>6</sup>The Finnish primary sector variable should be read with great care, as it includes the cleavage currently dividing the Finnish Center Party: both farming interests (which are opposed to membership) and timber interests (which generally support membership) are included therein.

declined relative to the bivariate regressions. In Model B, both the PUBSEC and PRIMSEC variables were significant.

### Table 3 about here

The same general pattern held for the Norwegian data. Here the coastal and northern counties, which rely heavily on fishing, farming and hunting for their livelihood, were strongly opposed to membership. In the Model B variant, the PRIMSEC, PUBSEC and OIL variables were all statistically significant; the first two being quite robust. In Model A, the TRADE and PUBSEC variables remained statistically significant. In the Norwegian data, as in the Finnish data, we found a strong and significant relationship between support for the EU and residence in a county which is employment-dependent upon exposed sector activities. The reverse was also true: Norwegian counties dependent on sheltered sector employment tended to oppose EU membership.

The Swedish data differ somewhat from the Finnish and Norwegian. Sweden was the only case which didn't show a significant PRIMSEC coefficient in either the bivariate or the multivariate regressions (i.e., Model B). This suggests that the primary sector counties in Sweden were less engaged in opposing EU membership than in the other two countries. For example, Gotlands län, a county where 12% of the population is employed in the primary sector (the most in Sweden), narrowly opposed EU membership in aggregate.<sup>7</sup>

The county-level findings provided strong support for the economic rationality hypothesis. Employment in the sheltered sectors was highly and significantly correlated with

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<sup>7</sup>Indeed, among the rest of the 55 cases, the only other county to support membership with a strong primary sector was St. Michels län in Finland.



opposition to EU membership in all three countries. In all of the countries, both the **TRADE** variable (in Model A) and the **PUBSEC** variable (Model B) were significantly correlated with the referendum outcomes. In Model B's results, the **PRIMSEC** variables were significant in both the Finnish and Norwegian cases.

### *Individual Level*

Given traditional assumptions about aggregation, we should expect to find micro foundations for the rational choice hypothesis uncovered in the aggregate data.<sup>8</sup> As the polling in question did not allow for a direct test of the rational choice assumptions, however, I had to look for support in three tangential indicators.<sup>9</sup> First, I present polling data on whether residents expected national and/or personal economic gain from EU membership. This is the most direct test of a narrowly defined rational choice hypothesis (as described above). I then move from the study of perceptions to more objective measures of economic position. In the second section I match EU support with the subject's class and professional background. In the final subsection, I hope to assess the relative importance of economic considerations on the EU vote, compared to other

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<sup>8</sup>I should point out that I'm avoiding an ecological fallacy by not suggesting that individuals can be expected to vote in a specific way, derived from aggregate patterns. The issue is more complex. Rational choice models begin with assumptions about individual behavior, and make predictions about aggregate behavior based on these initial assumptions. In economics, the realism of the initial assumptions are not important if the aggregate predictions are accurate (Friedman, 1953). In political science we have not (yet) formally accepted this methodological slight of hand. Consequently, we still expect empirical support for significant assumptions. This paper is a result of the difficulty in trying to find empirical support (at more than one level) for a multi-level hypothesis.

<sup>9</sup>The individual-level data used in this section were collected in a cross-national survey involving the Universities of Trondheim and Oslo in Norway, the University of Göteborg in Sweden, and the University of Tampere in Finland. Anders Todal Jenssen was the project's coordinator.

aspects of the issue (e.g., national sovereignty, international cooperation, cultural integration, etc.). I do this by listing voter responses to an open-ended question on the motivations behind their vote. Curiously, the individual-level data do not bear out a rational choice interpretation of the pattern uncovered in the aggregate data.

### *Perceptions*

In this section I present individual perceptions about EU membership (and its effects) from polls collected prior to the national referendums in Finland, Sweden and Norway. In particular, this section looks at voter attitudes about the effects of EU membership on their personal and national economic conditions.

Respondents were asked whether they thought that future EU membership would have an effect on their personal and/or national economies. Given our initial hypothesis, we would expect that a majority of respondents in Finland and Sweden (and a minority in Norway) would expect personal economic reward from EU membership. The responses to the national economy question are less relevant from a narrowly defined rational choice hypothesis (except to the extent that individuals can expect their personal economic condition to benefit from the national economic condition), but provide an interesting insight into voter preferences on aggregate developments.

Table 4 lists the responses. There are two noteworthy patterns in the data. First, most people did not expect any change to their personal economies from EU membership.<sup>10</sup> This does not provide very strong support for the rational choice hypothesis. Second, responses to the national economy question were quite strong in both Sweden and Finland. Whereas most people

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<sup>10</sup>Unfortunately, the individual-level question was not posed in Finland.

in Sweden did not expect their personal economic conditions to benefit from EU membership, a majority of them did expect their national economy to improve as a result. This is a curious aberration, and suggests that some people may be prioritizing the effects of EU membership on the national economy over their own personal economy (at least to the extent that they did not expect an effect on their own, individual, economy). From the results in Table 4 it would appear that voters were more concerned with the impact of EU membership on the national economy, than of its impact on their own personal economic condition. From a utility maximizing perspective, these findings are somewhat difficult to interpret.<sup>11</sup>

**Table 4 about here**

*Economic interests and EU vote*

In this section I look at the relationship between an individual's objective economic conditions (in particular, her work skills, income, etc.) and support for EU membership. Table 5 lists simple percentages of opposition to EU membership based on the professional characteristics of our polling subjects in all three countries. The table itself is divided into four categories (in addition to the national divisions/columns). The top section lists the support level of professions along pseudo-class lines (e.g., laborer, owner, etc.). The second section looks at support levels

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<sup>11</sup>Relatively few of the respondents gave 'don't know'-answers to these questions. This too is surprising. In all three countries, leading economists were ambivalent and divided over the economic impact of EU membership. When many experts failed to give straight answers to these two questions, how did the common voter come up with an unambivalent answer? Many, but not all, voters belong to groups with well-defined economic interests: for instance, through employment in the primary sector or industries heavily dependent on the European market. We will discuss this in the next subsection. Others, and especially the more extreme on both sides of the debate, may well have formed an opinion on the basis of their general attitude towards EU membership. It might be interpreted that these voters see EU membership as good/bad in overall terms; thus, it follows, that it must be good/bad for the economy as well.

among the currently not employed. The third section takes another cut at the data by organizing it along private/public sector lines. The bottom part of the table divides employment along sectoral lines.

**Table 5 about here**

From Table 5 it is fairly obvious that class is not a very relevant category for understanding EU support across countries. Industrial labors support membership in Norway and Finland, but not in Sweden. "Other" laborers support membership in Norway and Sweden, but not in Finland. Farmers in Norway and Finland oppose membership, but farmers in Sweden support it. Indeed, it is only among the upper class and small company owners that we find consistent support for EU membership across national frontiers. Nor does there seem to be a consistent response among the non-employed population. While an economic rationality argument might be made for welfare state clients, there is no consistent response among this group. Students, the unemployed, home-makers and pensioner support varies across nations. Even those employed in the public sector are divided along national lines.

There is some support for the economic rationality argument along sectoral lines. The strongest opposition to EU membership is found in Finland's (73.9%) and Norway's (88.6%) primary sector. But in Sweden there was less distance between supporters and opponents, and Swedish farmers were not like their Finnish and Norwegian brethren. In Sweden the strongest opposition to EU membership in the sectoral data was found in the service sectors (both private (57%) and public (57.1%): generally, two relatively sheltered sectors. Support was also generated in the most exposed sectors in all three countries: business, banking and insurance. There are, however, some anomalies. From an economic rationality perspective it is difficult to understand why Swedish transportation workers supported EU membership, and why such strong support was found among Finnish teachers and researchers (74%).

### *Issue salience*

This final section of individual responses looks at the responses to open-ended questions about why they supported (or didn't) EU membership. In short, respondents were asked to provide three reasons for supporting or opposing EU membership. When voters are asked why they intend to vote they way they would, we find the least support for the economic rationality argument. The question of EU membership is complicated, and voters offered a myriad of arguments, both pro and con. An overview of the results are given in Table 6.

#### **Table 6 about here**

Because of the difficulties associated with aggregation across countries, it is not possible to provide a simple cross-national picture of support/opposition. Some general remarks, however, can be derived collectively from the data. Most strikingly, very few people appeared to have explained their support in terms of individual economic benefit.<sup>12</sup> A narrowly defined economic rationality hypothesis does not find any significant support in the open-ended questions.

To assess the relative importance of economic arguments, we have listed all the answers to an open-ended question about reasons for supporting (or not) EU membership.<sup>13</sup> I hasten to emphasize that these economic arguments do not constitute a test of the economic rationality hypotheses, as they reflect national or community economic interests, not individual economic interests. If we are generous, and allow these broadly conceived economic interest arguments as

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<sup>12</sup>If any did, they would be collected in the "other" category.

<sup>13</sup>Interpreting the open-ended questionnaires is complicated by a debate within the discipline about the processes informing voter behavior. Our interpretation here is consistent with an "on-line", as opposed to a "memory-based" process. See Rahn et al. (1994) for a discussion.

support of the economic rationality hypothesis, we still do not find very strong support.

Economic arguments taken together ('economic policy', 'employment', 'food', 'agriculture' and 'fisheries') account for only one third of the arguments wielded for supporting membership. In Norway, general economic arguments were used by supporters of EU membership only 31.4% of the time; while Finnish and Swedish supporters were more likely to use economic arguments (43.3% and 40.5%, respectively).

In all of these cases it is important to note that the economic category of arguments is rather heterogeneous. Most of the arguments are clearly of an ideological nature, and are not linked to specific interests, sectors or industries. For example, most of the respondents in all three countries favor the EU's four freedoms, less state intervention, etc.. In addition, a substantial portion of Yes-voters argued in favor of free access to the EU market. Still, it is significant to note that "Economic policy and the four freedoms" was the most cited response in support of EU membership in all three countries.

Economic arguments were less often used to explain opposition to EU membership. Arguments related to economic questions rank second.<sup>14</sup> As with the Yes-arguments, the category includes both ideological and more specific, interest-oriented, argument. The more ideological arguments are typically left-wing arguments favoring state intervention and market control, and in some cases, anti-capitalists opinions. Others argue more practically in defense of specific interests like the food-processing industry.

At the aggregate level, Norwegian opponents to EU membership employed economic arguments 29% of the time, and Finns 28.3%. Swedish opponents to the EU relied even less on

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<sup>14</sup>The reader is advised to employ some caution in interpreting these figures as there are aggregation fallacies involved. Several of the economic, ideological, and social factors could be combined in ways to skew the distribution.

economic arguments, using them 18.9% of the time. Among opponents there was also agreement (across countries) in terms of the most common argument. In this group, however, it was not an economic argument, but the issue of sovereignty which was most frequently used to justify opposition to EU membership.<sup>15</sup>

## II. The inconsistency problem

The above empirical results highlight the difficulties associated with trying to employ a single explanatory model to various levels of analysis. In the aggregate data, voting patterns are largely consistent with a narrowly defined operationalization of economic rationality. At the individual level, however, these very voters do not appear to prioritize narrowly defined economic interests. We are left with an unexplained gap between individual and aggregate patterns. I call this gap the *inconsistency problem*. There are four conceivable solutions to the inconsistency problem.

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<sup>15</sup>Some national patterns appear as well. The Norwegian respondents, as noted, were less likely to employ economic arguments for EU membership—neither in support or in opposition. This is particularly obvious in that only 4.7% of Norwegian supporters used employment as a justification for their support, whereas Swedish and Finnish supporters used it 9.9% and 10.5%, respectively. What may be most curious in the Norwegian responses, in contrast to the Finnish and Swedish, is the heavy emphasis that supporters placed on cooperation and defense. The Norwegian opponents to EU membership were more likely than their Nordic brethren to employ criticism of the EU as an argument.

The Swedish respondents differentiated themselves in several respects. First of all, Swedish supporters of membership were significantly more concerned with isolation (23.3%) than were Norwegian or Finnish supporters. Swedish opponents also emphasized different potential costs of membership. In particular, environmental concerns (17.7%), border control (9.8%) and opposition to a common defense (5.0%) were much more common arguments against EU membership in Sweden than in the other two countries.

Finally, the Finnish case is interesting in that defense and security issues were not used to the degree that one might expect. Indeed, after economic policy effects, Finnish supporters of the EU relied most heavily (18%) on arguments about cultural integration to justify their vote. Employment and food prices were also more important in Finland than in either Sweden or Norway. Among Finnish opponents, agricultural arguments were more important than they were in the other two countries.

This section will address each briefly before pondering a more radical solution: questioning the utility of assuming a simple aggregation mechanism.

The first, and most obvious, answer to the inconsistency problem may be that there are errors in the data or the analysis at one or the other level. This is a possibility which should be entertained, but not by me. Ours is an honest attempt to find systematic patterns in both the aggregate and individual data. If alternative explanations for these patterns exist which are consistent with a simple aggregation assumption, I am more than willing to entertain them. This paper is, in effect, a solicitation for such assistance. Similarly, I am willing to entertain the possibility (though I am doubtful) that the inconsistency problem is confined to this peculiar issue, and might not exist in other issue areas.

The second possible solution is one which my co-author and I are currently pursuing: a more complicated model.<sup>16</sup> It is our ambition to try and explain contextual effects on the individual data by employing a model which incorporates multilevel analyses. General linear models for multilevel analyses employ two sets of regression equations (micro and macro), where the micro coefficients are used as dependent variables in the macro regressions. Ringdal (1992) provides a technical review of these models.

The remaining solutions require more attention. The third solution is to return to the narrow rationality hypothesis and broaden it. This could be done by prioritizing contextual effects in the context of uncertainty, with incomplete and complex information. Relaxing the rationality assumption, however, leaves us with the difficulty of deciding how to prioritize

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<sup>16</sup>One of the problems with the current analysis is the lack of contextual explanatory variables in the aggregate analysis. One reason for this is the difficulty in formulating contextual variables from aggregate data. In the new model we hope to include cultural, sociological, and ideological variables in the aggregate analysis. By not including these variables we may have biased our finding in the direction of the rational choice hypothesis.



different, competing, "contexts". Alternatively, the way in which information is processed may complicate the aggregate interpretations significantly. In the end, there seems to be no satisfactory means of reconciling the individual and macro data while maintaining a parsimonious model.

### *Broadened rationality*

Bourdieu (1984) argues that much of human behavior lies between rational choice and habit. Is it possible to occupy this middle ground by broadening the operationalization of the rationality hypothesis? Such a broadening might allow voters to take contextual effects under consideration. This seems like an attractive solution if only because contextual effects lie implicitly behind the analyses above. For example, the strongest economic activity associated with an opinion on EU membership is found in the primary sector. Yet this sector represents, at most, 10% of the employed population (see Table 1). How can such a strong effect be attributed to such a small sector? It may be that farmers, though they make up a relatively small proportion of a country's total population, have a strong effect--in contextual terms--on the opinions of their neighbors. In this regard, living in a farm district may project more relevant information of a given voter's attitudes than knowing the specific occupation of that resident.

More precisely, individuals can form opinions based on their own economic interests, but they might also take into consideration the effect of membership on their local, regional and national economy. This suggests that a voter's economic interest is not simply a function of here and now, but that it entails complicated calculations along both temporal and spatial fronts. In other words, voters might have evaluated how EU membership will effect both their immediate and future conditions: understood in terms of the voter herself, her local community and her country. Indeed, it may often be the case that voters find themselves in a squeeze: where their

narrow (immediate, individual) interests are opposed by perceptions of their broader (community's future) interests. Under these cross-pressure conditions, a broadened rationality hypothesis would prioritize the broader at the expense of the narrower interests. This might be so for three reasons.

First, in the examples considered here, the voter is being asked to consider her future--not immediate--interests. The referendums on EU membership offered voters a choice of future *paths*, not *outcomes*. In fact, voters were asked to evaluate several potential future paths: they needed to assess what their nation might look like in the future (outside of the EU), what the EU might look like in the future, and what their nation might look like as future members in a European Union (the nature of which was uncertain). Because of the nature of the question at hand, it is not unreasonable to expect that voter opinions with regard to the EU set an unusually high premium on the future. We would expect this at both the individual and aggregate levels of analyses.

The second justification has to do with the uncertainty of the question at hand. The EU referendums were particularly speculative in that the nature of the EU itself was an uncertain quantity (e.g., indecision around Maastricht, EMU, future expansion (of the deeper or broader sort), etc.). Nordic voters were being asked to evaluate their future in the event of joining a Union, whose future itself was uncertain. Under these uncertain conditions we might expect voters to prioritize the community-effect over their own.<sup>17</sup>

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<sup>17</sup>We expect resistance to this proposition, but our justification is simple: under conditions of great uncertainty it is reasonable to expect that voters find it easier to evaluate community benefit (loss) than their own. One might think of this in terms of a veil-of-ignorance argument: if voters do not know their future economic position, they can be expected to choose the collective solution which will most likely benefit them (individually). In actions relating to economic issues (say, future investment), this is not at all unreasonable.

A simple example of this point may be useful. Consider a wage-laborer's vote on EU

It is important to emphasize that this need not be an argument about altruism. We do not expect voters to choose (altruistically) the community's best interests at the expense of their own. Instead, this argument is based on broader conceptions of utility maximization. Voters choose an option in their community's best interest because they think this is the best surrogate for their own (narrow) best interest, under conditions of high uncertainty.

This brings us to a third justification for employing a broader conception of utility maximization. To the extent that there is not enough information or certainty about the relative costs and benefits of EU membership on the voter's community, the voter relies even more on the advice of important community-based advocates (political parties, interest groups, etc.). In this situation, then, we can expect voters to formulate a general argument about the benefits (costs) of EU membership, and use this general argument to motivate individual responses to particular questions about the EU.

In making this sort of methodological compromise, we risk alienating one or the other of our potential audiences: political economists or political sociologists. This is one reason to be leery of offering a broadened rational expectations hypothesis as a solution to the inconsistency problem. The more significant reason to be leery of this solution has to do with the criteria for prioritizing different contexts. This broadened conception of economic rationality does not provide any hints as to *when* an individual is willing to prioritize the community's (or county's, or

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membership. Her future employment possibilities are uncertain, EU membership or not. In ten years time it is uncertain whether she will be working in manufacturing, research, or the service sector. Because she is uncertain about her own position in the future, she tries to evaluate the consequences for EU membership on the community at large (in terms of whether it will bring greater or less economic growth). To the extent that the community's economic interests are furthered by the outcome of the EU referendum, her own economic interests are maximized. In the uncertain future, the relative strength of the community's economy is the significant determinant of an individual's future economic condition.

nation's) best economic interests over her own. This is, quite obviously, a serious shortcoming.

### *Information processing*

On an issue as complicated as EU-membership, voters are exposed to a great deal of (conflicting) information. The way in which that information is processed will inform the way in which their preferences are ranked, not to mention the way in which they vote. Most information comes through elites: political, economic and otherwise. Among elites, economic considerations of EU membership were both very important and quite sophisticated. (They also varied a great deal in their conclusions.) Generally, elite arguments were consistent with our narrow economic rationality hypothesis. As polling respondents did not seem to employ the same sort of maximization formulas, one might question whether voters had the capacity to understand and apply the sophisticated arguments marshaled by elites. If this is the case, individual arguments might have been *informed* by an economic rationality, but became more diffused in implementation. This gap between elite and individual interest formulation are the basis for the next two potential explanations for the inconsistency problem.

One possible explanation can be called the *articulation deficit*. Elite arguments are necessarily formulated in aggregate terms. Trade union leaders argue for (against) EU membership on the basis of how membership will affect the union. National political elites argue on the basis of expected effects of membership on the nation. Interest group elites formulate an aggregate interest for their members and argue for (against) membership on those grounds. Individuals, however, are members--and have interests--in all of these areas. It may be that voters understand the costs/benefits of EU membership in aggregate terms, but have difficulty articulating those evaluations at the individual level. If this is the case, voter behavior might be economically "rational", but their individual description of that behavior relies on a

variety of (potentially conflicting) factors.

An alternative explanation also draws from the way in which individuals formulate their interests based on elite arguments. This explanation can be referred to as the *priority problem*. As suggested above, voters receive advice from a variety of elites--several of whom may command the voter's loyalty. The voter must then prioritize her different interests, evaluate the different arguments which are posited for each interest, then sum the total costs and benefits of membership for the voter herself. This is a very complicated procedure, but necessary in order to evaluate the overall economic utility to the individual of membership in the EU. This process could easily lead to cycling problems which might explain away the difference between aggregate and individual outcomes.

Finally, there may be serious aggregation problems involved which can explain the consistency gap. The simplest explanation may be a *statistical* one. Weak factors at the individual level, when aggregated, might produce noticeable patterns in the aggregate data as other competing explanations cancel one another out. Consider the following example. Jim might oppose EU membership based partly on his narrowly defined economic interest, partly in the fact that he is a nationalist and a xenophobe, and partly on the fact that his wife told him to do so. Jane, on the other hand, might oppose membership based partly on her narrowly defined economic interests, partly on the recommendation of her bishop, and partly on the fact that she is concerned about what she calls the democratic deficit in the EU. If we continue this example ad nauseam, we might find that the most significant common argument used for opposing EU membership is one based on narrowly defined economic self-interest. The other important considerations "cancel out". This statistical argument might explain some of the inconsistency problem.

Like the other attempts at trying to explain away the inconsistency problem (e.g.,

broadening rationality and information processing), there is no satisfactory solution to the problem. We are left unable to formulate *a priori* expectations of aggregate outcomes based on individual observations. Reference to aggregation problems and articulation deficits allow us to describe (ad hoc) the gap separating micro and macro outcomes, but we are a long way from explaining outcomes. In addition, of course, explanations based on voter ignorance and elite rationality are normatively unappealing.

### III. Conclusion

This paper is an open airing of the difficulties that I've had in trying to match data on the same issue collected at two different levels of analysis. In most political queries, there are not sufficient data at more than one level of analysis. Thus, the study of political science tends to be divided along lines that don't facilitate attempts at multi-level explanation. Among political scientists, rational choice models are used by those who focus on macro political events (with little access to individual-level data). Like economists, these authors assume rationality at the individual level, and develop deductive arguments to explain macro patterns. On the other hand, those most familiar with the individual level data (political sociologists, pollsters, etc.) are most skeptical of these same models. This group is most heavily influenced by the behavioralist revolution, and most skeptical of deductive rational choice assumptions. Because of this institutional divide, we avoid dialogue between students of macro and micro politics.<sup>18</sup> The result is that the inconsistency problem remains unresolved.

The EU-referendums are unique in that they are national decisions by the nation state,

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<sup>18</sup>In economics, of course, an even greater institutional divide separated micro and macroeconomists. The development of perfect foresight models, however, has encouraged a new synthesis of macro and microeconomics (on microeconomic grounds).

informed by advisory referendums. Because of this, political sociologists and political economists find themselves studying the same issue. This provides us with a unique opportunity to discuss the inconsistency problem.

We study individual decision-makers because we implicitly understand macro social and political behavior as aggregate representations of individual actions. Because this assumption is often implicit, there has been little attention given to specifying the specific aggregation mechanism(s). Authors generally assume that the aggregation process is linear, even arithmetic, and non-problematic. More careful authors (e.g., Frieden, 1991) recognize that the aggregation mechanism is probably not so straightforward, but that it is still necessary to study individual decision makers, as they represent the "atoms" of political "stuff".

This work leads me to question the (often implicit) assumption that we can expect straight-forward aggregation mechanisms. Why do we expect parsimonious models to explain behavior at various levels of analysis? Is it not just as likely that there are different logics associated with various levels of analyses? Alternatively, could it be possible that the aggregation mechanism is so complex that we cannot hope to understand it until we have some larger perspective to the problems at hand? Our discipline needs answers to these difficult questions. Two examples are illustrative.

Recently, Andrew Sayer alluded to the fact that we can understand a log from two completely different (even apparently contradictory) ways: "Cut across a log, and you reveal a pattern of concentric rings: cut along the length of the same log, and the grains forms [sic] a pattern of parallel lines. The two patterns could hardly be more different and yet they are part of the same structure" (Sayer, 1995: 214). It may be that the micro- and macro-level data are related in an equally obscure way. Gaining a larger perspective may allow us to accept what appears to be different logics at different levels of analysis. As in contemporary, quantum,

physics, we might not yet understand how the aggregation mechanism works, while we can accept that different logics apply to different levels of analysis.

My final example comes from economics. Until recently, it was generally accepted that there were different rules or logics associated with individual and national (economic) accounts. During hard times, the universal advice given to individuals was to restrict purchases and maximize savings. The opposite advice, for the same conditions, was then given to national authorities: increase purchases, draw from savings (to affect demand). Different logics were assumed to apply to the same conditions at different levels of aggregation. Why was it then acceptable to assume that laws formulated at one level did not apply to the other?

Recently, Morris Fiorina suggested that the way out of this conundrum is to accept that rationality works at some levels better than others. Fiorina (1996: 88) argued that "RC models are most useful where stakes are high and numbers are low". In this way, Fiorina advises that we employ minimalist notions of rationality when working on mass behavior, and higher order of rationality when working on elites. In employing this solution, however, we jettison our attempt to develop parsimonious models of political action, and challenge the very assumptions upon which rational choice models rely. It is a costly solution, perhaps, but one worthy of consideration.



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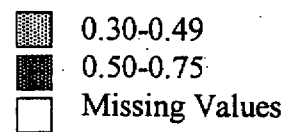
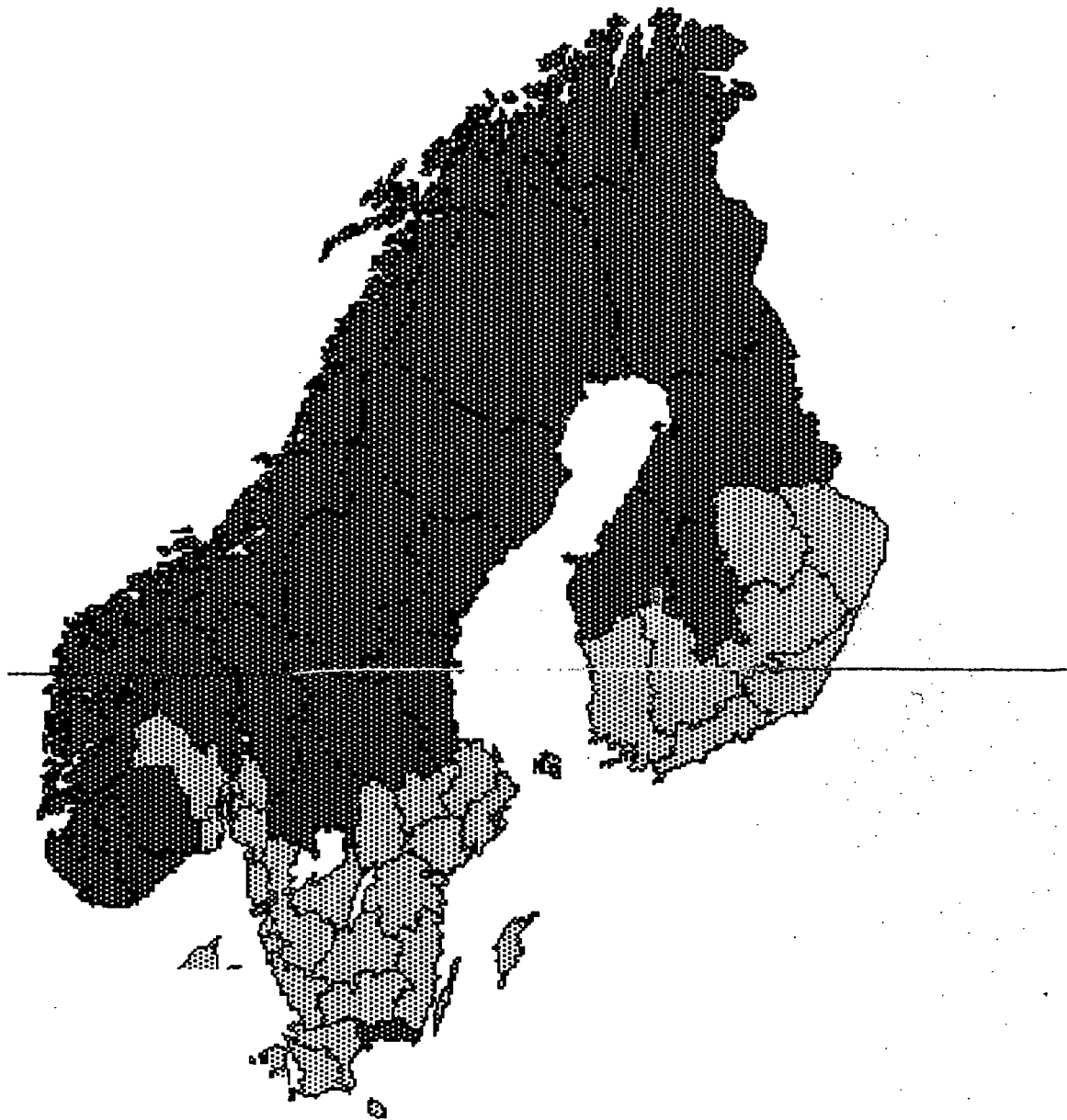
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**Figure 1**  
**Nordic Referendum Outcomes, % No**



**Table 1**  
**1993 Employment by sector, single-digit SITC**  
**% of total employment (ranking)**

Industrial Branch	Finland	Norway	Sweden
1 Agriculture, hunting, forestry and fishing	.09	.06	.03
2 Mining and quarrying	.002	.01	.003
3 Manufacturing	.19 (2)	.15 (3)	.18 (2)
4 Electricity, gas and water	.01	.01	.009
5 Construction	.06	.06	.06
6 Wholesale and retail trade	.15 (3)	.17 (2)	.14 (3)
7 Transport, storage and communication	.08	.08	.07
8 Financing, insurance, and business services	.09	.08	.09
9 Community, social and personal services	.33 (1)	.39 (1)	.40 (1)

Source: Yearbook of Nordic Statistics 1995.

**Table 2**  
**Aggregate regression coefficients (t stats)**

<b>Variable</b>	<b>Model A</b>	<b>Model B</b>
PUBSEC ( $\beta$ )	.250 (.98)	1.30 (5.59)*
MANUF ( $\gamma$ )	-.577 (-2.18)*	.291 (1.48)
OIL ( $\delta$ )	3.91 (3.05)*	3.89 (3.68)*
TRADE ( $\epsilon$ )	-1.67 (-3.53)*	
PRIMSEC ( $\epsilon$ )		1.63 (6.27)*
Constant ( $\alpha$ )	.764 (4.6)*	-1.28 (-1.13)
R <sup>2</sup>	.37	.57

**NOTE:** (\*) denotes significance at the 95% confidence level.

PUBSEC, MANUF, OIL, TRADE and PRIMSEC represent percentage of the population employed in the public sector; manufacturing; oil extraction, mining and quarrying industries; the wholesale and retail sales sectors; and the primary sector, respectively.

*Model A:*

$$Y_{no} = \alpha + \beta(\text{PUBSEC}) + \gamma(\text{MANUF}) + \delta(\text{OIL}) + \epsilon(\text{TRADE}) + u$$

*Model B:*

$$Y_{no} = \alpha + \beta(\text{PUBSEC}) + \gamma(\text{MANUF}) + \delta(\text{OIL}) + \epsilon(\text{PRIMSEC}) + u$$

**Table 3**  
**National regression coefficients (t stats)**

Variable	Finland	Sweden	Norway
<i>Model A:</i>			
PUBSEC ( $\beta$ )	.632 (.728)	.125 (.287)	1.33 (2.58)*
MANUF ( $\gamma$ )	-.359 (-.982)	-.347 (-1.21)	.094 (.215)
OIL ( $\delta$ )	-1.62 (-1.07)	4.21(2.06)*	1.16 (1.06)
TRADE ( $\epsilon$ )	-3.58 (-3.19)*	-2.87 (-3.69)*	-4.73 (-7.72)*
Constant ( $\alpha$ )	.885 (3.65)*		
R <sup>2</sup>	.75		
<i>Model B:</i>			
PUBSEC ( $\beta$ )	2.40 (3.34)*	1.98 (3.94)*	2.00 (4.15)*
MANUF ( $\gamma$ )	.702 (1.84)	.803 (2.67)*	.817 (1.87)
OIL ( $\delta$ )	-14.89 (-1.06)	4.65 (2.02)	3.01 (2.46)*
PRIMSEC ( $\epsilon$ )	1.59 (3.39)*	.689 (1.15)	2.21 (5.92)*
Constant ( $\alpha$ )	-.466 (-2.10)		
R <sup>2</sup>	.68		
N	55	12	24
			19

**NOTE:** (\*) denotes significance at the 95% confidence level. PUBSEC, MANUF, OIL, TRADE and PRIMSEC represent percentage of the population employed in the public sector; manufacturing; oil extraction, mining and quarrying industries; the wholesale and retail sales sectors; and the primary sectors, respectively. D<sub>N</sub>, D<sub>S</sub>, and D<sub>F</sub> are dummy variables for Norway, Sweden and Finland, respectively.

*Model A:*

$$\begin{aligned}
 Y_{no} = & \alpha + \beta_N(\text{PUBSEC} * D_N) + \beta_S(\text{PUBSEC} * D_S) + \beta_F(\text{PUBSEC} * D_F) \\
 & + \gamma_N(\text{MANUF} * D_N) + \gamma_S(\text{MANUF} * D_S) + \gamma_F(\text{MANUF} * D_F) \\
 & + \delta_N(\text{OIL} * D_N) + \delta_S(\text{OIL} * D_S) + \delta_F(\text{OIL} * D_F) \\
 & + \epsilon_N(\text{TRADE} * D_N) + \epsilon_S(\text{TRADE} * D_S) + \epsilon_F(\text{TRADE} * D_F) \\
 & + u
 \end{aligned}$$

*Model B:*

$$\begin{aligned}
 Y_{no} = & \alpha + \beta_N(\text{PUBSEC} * D_N) + \beta_S(\text{PUBSEC} * D_S) + \beta_F(\text{PUBSEC} * D_F) \\
 & + \gamma_N(\text{MANUF} * D_N) + \gamma_S(\text{MANUF} * D_S) + \gamma_F(\text{MANUF} * D_F) \\
 & + \delta_N(\text{OIL} * D_N) + \delta_S(\text{OIL} * D_S) + \delta_F(\text{OIL} * D_F) \\
 & + \epsilon_N(\text{PRIMSEC} * D_N) + \epsilon_S(\text{PRIMSEC} * D_S) + \epsilon_F(\text{PRIMSEC} * D_F) \\
 & + u
 \end{aligned}$$

**Table 4**  
**Subjective prospective change in personal<sup>1</sup>**  
**and national<sup>2</sup> economy if EU membership, percent**

	Norway		Sweden		Finland
	Personal	National	Personal	National	National
Improve	5	27	17	52	63
No change	71	35	58	23	18
Worsen	17	32	15	20	14
Don't know	8	7	10	5	5
	101	101	100	100	100
	(2947)	(2947)	(1804)	(1799)	(1559)

<sup>1</sup>The wording of the questions was: "If we become a EU member, do you believe your personal economic condition situation will improve notably, or decline notably compared to standing outside the EU, or do you believe your economic condition will not be influenced whether we get into the EU or not?"

<sup>2</sup>The question was: "How do you suppose membership in the EU would influence the development of the country in the following fields? ... The economy."

**Table 5**  
**Support for EU membership in different occupation groups**  
**(percent 'No' votes)**

	Norway	Sweden	Finland
Industry laborer	47.6	51.6	40.2
Other laborer	55.5	61.3	48.6
Lower white collar	49.5	45.9	36.9
Middle white collar	48.2	42.6	32.7
Higher white collar / company owners	32.2	27.5	25.8
Small company owners	39.3	35.8	22.6
Farmers	88.1	47.7	80.7
Students	50.6	47.4	30.9
Unemployed	54.4	63.4	48.3
Homemakers	64.5	53.3	38.6
Old age pensioners	48.9	36.6	39.7
Public sector	54.9	52.9	42.0
Private sector	41.3	42.0	39.4
Agriculture, fishing, forestry	88.6	54.5	73.9
Trade, industry, construction	41.7	41.8	38.3
Business, banking, insurance	33.2	37.3	27.4
Private service	50.0	57.0	38.8
Transportation	45.2	36.4	30.6
Public administration	49.3	55.3	43.6
Teaching, research	57.0	40.3	26.0
Public service sector	53.3	57.1	43.1
Other	48.9	54.5	37.3

Data from National Surveys



**Table 6**  
**Arguments given for voting on EU membership**  
**(percent of all arguments)**

	Norway	Sweden	Finland
<b>Yes-arguments</b>			
<i>Economic policy, four freedoms</i>	22.0	28.9	25.1
Participation, cooperation	20.7	11.7	7.6
Defense, security	18.2	10.7	11.0
Fear of isolation	9.9	23.3	10.9
Cultural integration	7.1	4.1	18.0
Environmental concerns	5.8	3.0	0.3
<i>Employment</i>	4.7	9.9	10.5
<i>Cheaper food</i>	3.1	0.6	6.2
United States of Europe	1.9	2.7	1.3
<i>Cut agriculture, fisheries</i>	1.1		1.3
Welfare state, pensions, etc.	0.8	0.6	2.3
<i>Improvement: fisheries</i>	0.4		
<i>Improvement: agriculture</i>	0.1	1.1	0.2
Gender equality		0.1	0.1
Other Yes-arguments	4.0	3.2	5.2
<i>Total "economic" arguments (Yes)</i>	31.1	40.5	43.3
<b>No-arguments</b>			
Sovereignty, democracy	26.1	25.3	22.3
Criticism of EU and EU system	10.6	5.5	6.4
<i>Economic policy, EEA</i>	10.4	11.6	17.5
Environmental concerns	7.1	17.7	4.0
<i>Agriculture</i>	6.9	1.2	8.0
<i>Employment</i>	6.7	4.9	2.8
<i>Fisheries, fish quotas</i>	5.0	1.2	
Regional policy	3.8	1.7	1.1
Counter-culture	3.3	1.3	1.8
Welfare state, pensions, etc.	3.2	3.4	4.6
Border controls, drugs, etc.	3.2	9.9	5.9
Know what we have, but...	3.0	1.0	1.4
Oppose common defense	0.8	5.0	3.8
Gender equality	0.2	2.5	1.5
Other No-arguments	10.0	9.6	18.9
<i>Total "economic" arguments (No)</i>	29.0	78.9	28.3

Source: National Surveys

Note: "Economic" arguments in italics.

**APPENDIX I**  
**Referendum and Employment Percentiles**

COUNTY	% NO	% MANUF	% PRIMSEC	% PUBSEC	% TRADERS
<b>FINLAND (N=12)</b>					
Nyland	30	16	02	28	20
Åbo-Björneborg	46	26	09	24	14
Åland	48	10	11	25	15
Tavastehus	42	28	06	25	15
Kymmene	35	24	09	25	14
St. Michel	46	19	17	27	13
N. Karelen	52	15	16	31	13
Kuopio	52	18	15	29	14
Vasa	56	22	17	25	13
M. Finland	52	22	12	28	14
Uleåborg	56	17	12	31	13
Lappland	53	14	11	33	14
<i>Mean (Std. Dev.)</i>	<i>47 (08)</i>	<i>19 (05)</i>	<i>11(05)</i>	<i>28 (03)</i>	<i>14 (02)</i>
<b>NORWAY (N=19)</b>					
Østfold	47	23	04	32	18
Akerhus	36	12	02	36	22
Oslo	33	10	00	39	21
Hedmark	57	17	10	35	17
Oppland	56	16	12	33	18
Buskerud	43	19	04	32	20
Vestfold	43	19	04	34	19
Telemark	58	23	05	33	17
Aust-Agder	56	18	05	36	16
Vest-Agder	54	19	04	34	18
Rogaland	55	17	07	30	17
Hordaland	56	16	05	35	18
Sogn & Fjordane	68	19	15	31	13
Møre & Romsdal	62	21	11	31	15
Sør-Trøndelag	55	13	08	38	18
Nord-Trøndelag	64	15	16	35	15
Nordland	71	12	10	38	15
Troms	72	09	08	41	17
Finnmark	75	11	08	41	16
<i>Mean (Std. Dev.)</i>	<i>56 (12)</i>	<i>16 (04)</i>	<i>07 (04)</i>	<i>35 (03)</i>	<i>17 (02)</i>
<b>SWEDEN (N=24)</b>					
Stockholm	38	12	01	38	17
Uppsala	46	14	04	43	13
Södermanland	45	25	04	37	12
Östergötland	45	25	04	39	12
Jönköping	51	30	05	33	12
Kronoberg	48	27	06	34	14
Kalmar	51	27	07	34	11
Gotland	48	13	12	41	12
Blekinge	53	27	05	38	10
Kristianstad	42	24	07	35	13
Malmöhus	34	19	03	37	15
Halland	41	20	06	35	15
Göteborg	45	19	01	36	15
Älvsborg	51	26	04	34	14
Skaraborg	49	28	07	36	11
Värmland	52	23	05	38	13
Örebro	52	24	04	39	12
Västmanland	45	27	03	34	12
Kopparberg	61	22	05	37	13
Gävleborg	58	24	04	37	12
Västernorrland	58	19	04	39	12
Jämtland	72	13	08	42	12
Västerbotten	62	17	05	42	12
Norrbotten	65	14	04	42	12
<i>Mean (Std. Dev.)</i>	<i>50 (09)</i>	<i>22 (05)</i>	<i>05 (02)</i>	<i>38 (03)</i>	<i>13 (02)</i>

Source: Norwegian Social Science Data Services (NSD)

APPENDIX II

**Descriptive Statistics**

**No-vote in referendums, percent**

	Mean	Std. dev.	Min.	Max.	N
Finland	.47	.08	.30	.56	12
Sweden	.50	.09	.34	.72	24
Norway	.56	.12	.33	.75	19
Aggregate	.52	.10	.30	.75	55