Comparative Context and Public Preferences over Regional Economic Integration

Kenneth Scheve

Yale University[*]

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This paper investigates how comparative context shapes public preferences over international economic policies. Specifically, the research examines how cleavages in public opinion over European economic integration vary across countries as a function of key characteristics of national labor markets. The main argument developed is that the skill cleavage in opinion formation over European integration varies with, among other things, the degree of wage bargaining centralization. Centralized wage bargaining tends to reduce wage inequality, and so the actual distributive consequences of integration are attenuated by this institution. Analyzing surveys from the 15 countries of the European Union, evidence is presented that the more centralized are wage bargaining institutions, the smaller is the skill cleavage in the electorate over regional economic integration. National institutions, particularly those that alter the incidence of the costs and benefits of policy alternatives, are powerful predictors of cross-national differences in opinion formation over international economic policies.

1 Introduction

This paper investigates how comparative context shapes public preferences over international economic policies. Previous research has documented a significant skill cleavage in public opinion over international economic policies in advanced industrial democracies (e.g. Gabel 1998a, 1998b; PIPA 2000; Scheve and Slaughter 2000a, 2000b). This paper examines how this cleavage varies across countries as a function of key characteristics of national labor markets. I contend that national institutions, particularly those that alter the incidence of the costs and benefits of policy alternatives, are powerful predictors of cross-national differences in opinion formation over international economic policies.

The theoretical framework for this analysis examines the implications of regional integration for labor market outcomes. This analysis suggests that individual skill levels are likely to be an important determinant of individual opinions about European integration. However, the importance of skill-type should vary across countries according to national endowments of skilled labor and key features of labor market institutions. The theory discussion emphasizes, in particular, the effect of centralized wage bargaining institutions on how skilled and unskilled workers view regional integration. To the extent that centralized wage bargaining tends to reduce wage inequality, the expected distributive consequences of integration are attenuated by this institution. Consequently, with more centralized wage bargaining, the skill cleavage in the electorate over regional economic integration should be decreased.

The empirical analysis provides new evidence on the determinants of individual regional-economic-integration preferences and how these determinants vary across different national institutional contexts. The data for the analysis is based on ten Eurobarometer surveys covering the period from 1994 to 1998. Each study surveys individuals from 13 to 15 EU member countries. In total, this data constitutes 148 country surveys. The surveys provide a consistent measure of individual preferences toward European economic integration. I construct the remainder of the data set using both information in the surveys that indicate individual exposure to integration and data from other sources measuring salient features of national labor markets that may influence the distributive consequences of policy alternatives and thus the determinants of individual preferences. The analysis employs the use of Bayesian hierarchical linear models to allow heterogeneity in the determinants of individual opinions across surveys and to estimate the effect of national context on those determinants.

There are two main empirical results. First, I find that individual skill level is an important predictor of support for European integration. The importance of this effect, however, varies significantly across the 148 country surveys analyzed.

To the extent that skill levels do determine opinions on Europe, this finding is consistent with previous research on Europe that has pointed to the importance of human capital in describing variation in public support for integration (Gabel 1998a, 1998b).

Second, I find that salient features of national labor markets explain a significant portion of the variation in the estimated effect of skill on European integration opinions. In particular, the analysis indicates that the skill cleavage in opinion formation over European integration varies with the degree of wage bargaining centralization. Centralized wage bargaining tends to reduce wage inequality, and so the actual distributive consequences of integration are attenuated by this institution. Evidence is presented that the more centralized are wage bargaining institutions, the smaller is the skill cleavage in the electorate over regional economic integration. Importantly, the fact that the estimated skill cleavage is sensitive to institutions that affect the incidence of the costs and benefits of policy alternatives is further evidence that the effects of policy alternatives on individuals' economic interests influence opinion formation. Although the interests-preferences link is confirmed in this study, it is clear that the link is conditional on key features of the political and economic context in which opinions are formed.

There are four additional sections to this paper. Section 2 provides a theoretical framework for opinion formation over regional economic integration. The following section discusses the data and model specifications. This section includes a brief introduction to the use of hierarchical models for the study of comparative political behavior. Section 4 presents the empirical results, while Section 5 concludes.

2 Interests, Institutions, and Opinion Formation over European Integration

The starting point for the model of opinion formation about European integration developed in this paper is that individuals form opinions about integration consistent with their interests in the distributive consequences of alternative policies. I argue further that individuals' assessments of their interests in regional integration vary across countries with key features of national labor markets. Each country has an array of economic and institutional characteristics that affect the incidence of the costs and benefits of European integration. Consequently, the determinants of individual opinions about integration should vary systematically according to these features. I emphasize, in particular, how national endowments of skilled labor and the degree of centralization of wage bargaining may shape expectations about the distributive consequences of alternative policies. Each of these contextual features is hypothesized to affect the importance of individual skill-type on

support for European integration.

Regional economic integration is the removal/reduction of barriers to trade in goods and services and to the movement of labor and capital across borders. These liberalizations could affect individual economic welfare in a number of different ways, and thus, there is undoubtedly heterogeneity in the considerations individuals weigh in evaluating integration. Keeping this qualification in mind, I argue that regional economic integration primarily benefits those individuals with more labor market skills. This claim has been made by a wide variety of analysts of European integration based on a diverse set of economic models. I will review only one in order to keep the theoretical and empirical focus of the analysis on the question of contextual effects.

Specifically, I focus attention on the trade-liberalizing impact of regional economic integration in Europe. Expectations about the effect of liberalization of trade in goods and services on labor market outcomes depend most importantly upon the degree of intersectoral factor mobility assumed. The Heckscher-Ohlin (HO) model assumes that factors can move costlessly across sectors. This mobility implies that economy-wide, each factor earns the same return in all sectors. Trade liberalization, which changes relative product prices, changes relative (and possibly real) factor prices according to the Stolper-Samuelson theorem: returns tend to rise (fall) for the factors employed relatively intensively in the sectors whose relative product price rises (falls). In this model it is usually assumed that protection is received by the sectors that employ relatively intensively the factors with which the country is poorly endowed compared to the rest of the economic area's members, because in opening from autarky to free trade these factors suffer income declines. In contrast, the factors with which the country is relatively well endowed compared to other members enjoy income gains in opening from autarky to free trade. Thus, a country's abundant factors support freer trade through regional integration while its scarce factors oppose it—regardless of the sector of employment for any of these factors.

In contrast, the Ricardo-Viner model assumes that some or even all factors cannot move across sectors. This immobility is usually thought to be a result of some transaction costs to moving. For example, industry-specific human capital gained through on-the-job experience can make workers reluctant to switch sectors. In this model immobile—i.e., specific—factors need not earn the same return in all sectors. Instead, the income of specific factors is linked much more to their sector of employment. In particular, trade-liberalization-induced changes in relative product prices redistribute income across sectors rather than factors. Sectors whose product prices fall—presumably comparative-disadvantage sectors—realize income losses for their specific factors while sectors whose product prices rise— presumably comparative-advantage sectors—realize income gains for their specific

factors. As a result, policy preferences about trade-liberalizing regional integration are determined by sector of employment. Factors employed in sectors with product prices elevated (lowered) by trade protection oppose (support) liberalization.[1]

The analysis of trade-policy preferences in the United States presented in Scheve and Slaughter (2000b) suggests that factor-type rather than sector of employment accounts for patterns of public opinion about trade. In particular, the results highlight the importance of individual skill type as more-skilled workers were much less likely to have protectionist opinions than less-skilled workers consistent with the predictions of a two-factor (skilled and unskilled labor) HO model. Consequently, I focus attention in this paper on the predictions of a two factor (skilled and unskilled labor) HO model for labor market outcomes due to the trade liberalizing effects of regional integration.[2] What then does this HO model predict about regional economic integration preferences across EU member states? In those countries relatively well endowed with more-skilled labor, more-skilled workers should support integration while less-skilled workers oppose it. In countries, without a comparative advantage in skill-intensive sectors, the skills-preference link should be significantly attenuated, if not reversed.[3] The hypothesis is qualitatively similar to that developed in Scheve and Slaughter (2000b) examining trade preferences in the United States. However, the expectations are conditioned on national levels

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[1] The factor versus sector-based hypotheses generated by these two models should not be overdrawn. Preferences may be consistent with both models, not just one. The RV model can be characterized as a short-run version of the more long-run HO model. Each model might be relevant over different time horizons. If individuals evaluate both short-run and long-run effects of liberalization, then policy preferences might depend on both factor type and industry of employment. Moreover, it is certainly possible for specificity to vary across countries with one model describing labor market effects more accurately in some countries than others (Iversen and Soskice, 2000).

[2] Ideally, the analysis would test both for factor-type and industry-of-employment cleavages in opinions over European economic integration. The data set used in the analysis below does not allow such a test because detailed information about individuals' industry of employment is not available. The analysis presented here consequently focuses on the hypothesized skill cleavage without directly examining the possibility of sector-based differences in opinions about integration.

[3] Strictly speaking, for those countries well endowed in less-skilled workers relative to other member states, the skills-preferences link should be reversed with less-skilled workers preferring integration and more-skilled workers opposing it. This reversal may not be complete, however, given a number of considerations. For example, regional economic integration may have a liberalizing effect on external trade outside the union. EU members that may be well endowed in less-skilled workers relative to other countries in EU do not have such an advantage relative to the rest of the world.

of skill endowment with the hypothesis being that increasing skill levels are correlated with positive attitudes toward integration, particularly in countries well endowed with more-skilled labor.[4]

National labor markets in the European Union, however, vary in important characteristics other than endowments that affect the incidence of the costs and benefits of economic integration. The most important of these are the institutions that organize wage bargaining between workers and employers. A large literature has investigated the consequences of variation in the centralization of wage bargaining for national economic outcomes. Many of these studies examine the impact of wage bargaining institutions on measures of macroeconomic performance such as unemployment, inflation, and GDP growth (e.g. Alvarez, Garrett, and Lange 1991; Calmfors and Driffill 1988; Cameron 1984; Garrett 1998; Golden 1993; Hall and Franzese 1998; Iversen 1998, 1999; Lange and Garrett 1985; OECD 1997; Soskice and Iversen 1998). The findings in these studies vary significantly. Nevertheless, it seems clear from the most careful of these analyses that wage bargaining institutions can, in some instances, have important effects on key macroeconomic outcomes. The most consistent and robust finding, however, in analyses of the effects of wage bargaining institutions on economic outcomes is the impact that these institutions have on wage inequality. The more centralized is wage bargaining, the less earnings inequality there is across different skill groups (Hartog and

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[4]This emphasis on the trade-liberalizing effects of regional integration may oversimplify a number of issues. In the context of the two factor (skilled and unskilled labor) HO model, the liberalization of labor flows across borders that also accompanies regional integration in Europe may, depending on the assumptions adopted, substantially alter the predicted distributional effects. Although labor flows can have a significant impact on labor market outcomes, these flows have been limited in the EU and their impact on wages and consequently public opinion are likely to be small. In fact, the biggest concern in the European electorate about the free flow of labor seems to be the migration of less-skilled workers, both legal and illegal. This concern is likely to reinforce rather than undermine the skill cleavage discussed in the text (see Scheve and Slaughter (2000a) for a discussion of three alternative models of the effects of migration on labor market outcomes). Regional economic integration also liberalizes the flow of capital, which could affect the hypothesized skill cleavage in a number of different ways. I contend that increased capital mobility principally benefits capital-owning and high-skilled individuals (Garrett 1995; Persson and Tabelini 1992, 1999; Rodrik and van Ypersele 1999). Increased capital mobility and the subsequent tax competition among governments can lead to greater after-tax returns for capital owners. Complementing this direct effect is the negative impact tax competition may have on the generosity of redistributive transfers. Consequently, individuals with lower before tax-and-transfer incomes from both wages and capital returns should be, all else equal, more likely to have negative opinions about regional economic integration that increases capital mobility. This argument suggests that the skill cleavage over integration created by the liberalization of trade in goods and services may also be reinforced by the distributive consequences of increased capital mobility but see Gabel (1998b) for an alternative perspective.

Teulings 1997; Iversen 1999; OECD 1997).

The explanation for the relationship between centralization or unionization more generally and wage compression varies in the literature. Iversen's (1999) account is perhaps the most straightforward one that does not rely on a simplistic "taste" for more solidaristic outcomes in centralized systems. He points out that the leadership of centralized union confederations have to reach not only agreements with employers but also resolve distributional conflicts between high-wage and low-wage unions. The resolution of these conflicts tends to result in compressed wage differentials because low-wage unions can veto agreements that do not satisfactorily distribute gains. Given this veto power in centralized settings, high and low-wage unions tend to divide the collective wage increases equally in absolute terms while with decentralized institutions proportional, market driven increases are more likely. Consequently, in centralized wage bargaining, covering workers across the skill continuum, wage dispersion is significantly reduced.

Given the effects of wage bargaining centralization on labor market outcomes, these institutions provide an important context for individuals evaluating regional economic integration. Most importantly, the impact of integration on the skill premium is likely to be attenuated significantly in countries in which wages are set through relatively centralized institutions as the gains from integration are more widely shared. This variation in the incidence of the costs and benefits of integration suggests that the skill cleavage in opinions should vary across cases accordingly. Specifically, I expect that the skill cleavage is substantially reduced in those countries with a relatively high degree of wage bargaining centralization.[5]

The general model of opinion formation examined in this paper then is a hierarchical one. Individual opinions about integration are expected to vary with respondent skill levels as more-skilled workers are anticipated, all else equal, to be more supportive of European integration. This relationship, however, is expected to vary significantly across EU member states according to key features of national labor markets. I have emphasized in particular national skill endowments and the

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[5]One possible objection to this argument is that it assumes that individuals treat wage bargaining institutions as exogenous features of the labor market when they form opinions about integration. This assumption may seem problematic because national wage bargaining institutions do change over time. For example, during the 1980s, wage bargaining became less centralized in Sweden and Denmark, more centralized in Norway, and changed very little in Austria (Iversen 1999, OECD 1997). Further, it is possible that regional economic integration may influence centralization. However, for purposes of opinion formation, these institutions change relatively slowly, and without clear trends, current levels of centralization are the individual's best estimate of future centralization. Moreover, the empirical results presented below are inconsistent with what one would expect if voters formed opinions with the anticipation that regional integration undermined centralized wage bargaining institutions.

degree of centralization of wage bargaining institutions (the empirical analysis will explore a number of others including key features of the welfare state). The skill cleavage is hypothesized to be strongest in countries relatively well endowed with skilled labor and in those nations with relatively decentralized bargaining institutions. This model of opinion formation generalizes the interests-preferences link for opinions about international economic policies by making the evaluation of interests sensitive to the specific context in which the opinions are formed.

3   Data Description and Empirical Specification

Given the theoretical framework described above, a persuasive empirical analysis of the determinants of individual opinions about regional economic integration requires measures of policy preferences, individual exposure to liberalization, and key characteristics of national labor markets. I develop such an analysis by combining data from 10 Eurobarometer studies surveying the European electorate from 1994 to 1998 with measures of wage bargaining centralization, national skill endowments, and unemployment levels. Each of the 15 countries of the European Union was included in the 10 Eurobarometer studies with the exception of Sweden and Austria in one case. Consequently, the data set constructed included a total of 148 country-survey clusters.[6]

Data Description

I measure integration preferences by responses to the following question asked regularly in Eurobarometer surveys from 1994 through 1998.

> Generally speaking, do you think that (OUR COUNTRY'S) membership in the European Union is a good thing, a bad thing, neither good nor bad?

This question requires respondents to reveal their general evaluation of their country's integration in the European Union. While participation in the European Union includes issues beyond regional economic integration, the most important elements of the treaties to date have been the liberalization of the flow of goods,

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[6]The 10 Eurobarometer surveys included in this analysis are 41.0, 42.0, 43.1, 44.1, 45.1, 46.0, 47.0, 48.0, 49.0, and 50.0. There is roughly six months between each study with the first dated March-June 1994 and the last October-November 1998. The 15 member states of the European Union are Belgium, Denmark, Germany, Greece, Italy, Spain, France, Ireland, Luxembourg, Netherlands, Portugal, United Kingdom, Finland, Sweden, and Austria.

labor, and capital between member states. Consequently, it is a good summary measure of respondents' opinions about regional economic integration as understood in the theoretical discussion in the previous section. I constructed the variable *Integration Opinion* by coding responses 1 for those individuals answering "a bad thing," 2 for "neither good nor bad," and 3 for "a good thing." Thus, higher levels of *Integration Opinion* indicate preferences favoring economic integration.

The theoretical framework hypothesizes that regional economic integration can affect individuals' earnings in the labor market according to their skill levels. To test whether skills are a key determinant of attitudes toward integration, I constructed the variable *Educational Attainment* equal to the age of the respondent when he or she stopped full-time education. Individuals still in full-time education were coded their current age.

I also constructed several control variables that may also be systematic determinants of individual integration preferences. I include the following measures in addition to the skill measure in the baseline analysis: ideology, gender, and age. *Ideology* is a categorical variable ranging from one indicating the individual placed his or her views on political matters at the "left" end of the left/right spectrum to ten indicating placement at the "right" end of the spectrum. *Gender* is a dichotomous variable equal to one for females. *Age* is a continuous variable. Note that including the ideology measure in an analysis attempting to estimate the effect of skills on attitudes toward integration risks biasing the skill effect toward zero. If ideology is conceived as an exogenous disposition toward politics, it belongs in the specification and causes no problems. If, on the other hand, it is a summary measure for policy views, it is then, in part, a consequence of skill-type and not an appropriate control variable. The review of the robustness checks below returns to this issue.

To test the hypotheses developed in the previous section, it is also necessary to develop measures of key characteristics of the national labor markets. The variable *Skill Endowment* is equal to the percent of the national population having at least completed upper secondary education in 1998. The source for this variable is the *Eurostat Yearbook 2000*. This variable provides an indication of the relative national endowment of skilled labor. Alternative measures of skill endowments are explored in the robustness checks below. The variable *Centralization* measures the degree of centralization of national wage bargaining institutions during the period 1992 through 1995. The source of this measure is Iversen (1999) and the construction of the variable is described there in detail. The key characteristic of the measure is that the variable equals 1 if bargaining power is concentrated at a single level while it approximates 0 if bargaining is fragmented at a low-level. Although not directly discussed in the theoretical framework, national unemployment levels are an important control variable for estimating the contextual effects of *Skill En-*

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Variable	Mean	Standard Error
Integration Opinion	2.388	0.760
Educational Attainment	17.928	4.795
Ideology	5.199	2.003
Age	43.549	17.798
Gender	0.522	0.500
Observations		164,083
Centralization	0.252	0.126
Skill Endowment	58.631	17.065
Unemployment	9.562	4.550
Observations		148

Table 1: *Summary Statistics.* These summary statistics are multiple-imputation estimates based on 5 imputed data sets for each level of data.

dowment and *Centralization.* Previous studies of public opinion on Europe have argued that current levels of economic performance can affect integration opinions much like approval time-series of incumbent governments (Eichenberg and Dalton 1993; Anderson and Kaltenthaler 1996). Including an unemployment measure as a contextual variable allows for this mean effect as well as the possibility that indicators of weak economic performance might also influence the hypothesized skill cleavage in public opinion over integration. *Unemployment* is set equal to the annual unemployment level and is also taken from the *Eurostat Yearbook 2000.* Alternative measures of key characteristics of national labor markets are addressed in the robustness checks below.

Table 1 reports the summary statistics of the integration-opinion measure and explanatory variables. These estimates and all the statistical analyses in this paper rely on multiple imputation to deal with the missing data problems in these surveys. These procedures are explained in detail in Appendix A. The "average" value for *Integration Opinion* was 2.388. This value reflects responses between "neither good nor bad" and "a good thing."

Econometric Model

The empirical work has two objectives. First, it aims to estimate the effect of various individual-level characteristics on respondent support for European inte-

gration. Second, it seeks to determine the impact of variation in national labor markets on the effects of the individual-level variables. This inquiry with two distinct levels of data suggests the application of a Bayesian hierarchical model for the econometric specification. Hierarchical models, also known as random effects or random coefficient models, have been used for a variety of applications in the social sciences (e.g. Western 1993, 1998; Wong and Mason 1991; King, Rosen, and Tanner 1999).

The most important characteristic of hierarchical models for this research question is the efficient estimation of contextual effects (Bryk and Raudenbush 1992, Western 1998). One of the two key substantive questions in this paper is how national labor market institutions provide a particular context for the formation of public opinion about European integration. Hierarchical linear models are particularly well-suited for this task. Note that contextual effects broadly similar to the ones in this paper are the main point of substantive interest in many studies of comparative political behavior. One of the contributions of this paper is to offer one of the first applications of Bayesian hierarchical modeling to the study of comparative political behavior. The method has wide application to the field particularly when the substantive question is in the form of the effect political and economic institutions have on individual-level behavior.

The model description for estimation in this paper roughly follows that in Bryk and Raudenbush (1992), Gelman et al (1995), and Western (1998). Let i $(1 \dots I_c)$ index the individual in each country-survey cluster and c $(1 \dots 148)$ index the country-survey clusters. I_c indicates the number of individuals surveyed in each cluster and ranges between 499 and 2,838 but is typically close to 1,000. At the individual-level, let $y_{i,c}$ be the i, c'th individual's *Integration Opinion* response, then

$$y_{i,c} \quad = \quad \beta_{0,c} + \beta_{1,c}E_{i,c} + \beta_{2,c}I_{i,c} + \beta_{3,c}A_{i,c} + \beta_{4,c}G_{i,c} + \epsilon_{i,c} \tag{1}$$

where

$$\epsilon_{i,c} \sim Normal(0, \sigma^2) \tag{2}$$

Further, $E_{i,c}$ is the i, c'th individual's *Educational Attainment*; $I_{i,c}$ is that respondent's *Ideology*; $A_{i,c}$ is his/her *Age*; and $G_{i,c}$ indicates *Gender*. Each of the individual-level coefficients $(\beta_{0,c} \dots \beta_{4,c})$ are indexed by c indicating that the individual-level effects vary across clusters. These coefficients are distributed

$$\beta_c \sim Normal(\hat{\beta}_c, \Psi) \tag{3}$$

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where β_c is a 5x1 vector including coefficients $\beta_{0,c} \ldots \beta_{4,c}$ for cluster c. $\hat{\beta}_c$ is the 5x1 vector defined by

$$
\begin{aligned}
\hat{\beta}_{0,c} &= \alpha_{0,0} + \alpha_{0,1} C_c + \alpha_{0,2} S_c + \alpha_{0,3} U_c \\
&\vdots \\
\hat{\beta}_{4,c} &= \alpha_{4,0} + \alpha_{4,1} C_c + \alpha_{4,2} S_c + \alpha_{4,3} U_c
\end{aligned} \tag{4}
$$

and Ψ is a 5x5 variance-covariance matrix. Note that it is characteristics of national labor markets in the second-level (more commonly known as macro-level) equation that explain variation in the individual-level (micro-level) coefficients across clusters. C_c indicates the *Centralization* score for the c'th cluster; S_c is the *Skill Endowment* measure; and U_c stands for the *Unemployment* variable for each cluster. $\alpha_{j,k}$ ($\alpha_{0,0} \ldots \alpha_{4,3}$) are the parameter estimates for the contextual effects, with j indicating the micro-level coefficient and k indexing the relevant macro-level variable.

Finally, the priors for the model are

$$
\begin{aligned}
\alpha_{j,k} &\sim Normal(0, 1000) \tag{5} \\
\Psi^{-1} &\sim Wishart(5, 1000 * I_5) \tag{6} \\
\sigma^2 &\sim Inverse-Gamma(1, 1) \tag{7}
\end{aligned}
$$

These priors do not play a major role in this analysis. The estimates are approximately the same when no prior is specified.[7]

This model is just a special case of the general Bayesian linear model (Lindley and Smith, 1972). Estimation of this model can be made via Bayesian simulation methods (Gelman et al 1995, Jackman 2000). In particular, the Gibbs sampler has been used extensively to estimate hierarchical models. The Gibbs sampler is a general iterative method for drawing from the posterior distribution of the parameters of a statistical model. The simulation procedure for this model includes four basic steps:

1. Draw β's from their conditional distribution, based on current estimates of the other parameters.

2. Draw σ^2 from its conditional distribution, again based on the current estimates of the other parameters.

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[7]However, the Gibbs sampling algorithm used to estimate the model is less stable with no prior and does not reliably iterate to completion.

3. Draw α's from their conditional distribution, given the current estimates of the other parameters.

4. Draw Ψ from its conditional distribution, again using the current estimates of the other parameters to define the conditional distribution.

This algorithm was repeated 1000 times so that the stochastic sequences converged.[8] The algorithm was then repeated a further 800 times to generate a simulation of the posterior distribution of each set of parameters, which could be used to report results and generate quantities of interest.[9]

4   Empirical Results

Skills and European Integration Preferences

The results from the estimation of the hierarchical model specified in the previous section strongly support the hypothesis that individuals' skill levels are a key determinant of preferences over European integration. The micro-level model defined in Equation 1 involves estimating 5 effect parameters $\beta_{0,c} \ldots \beta_{4,c}$ for each of the 148 clusters in the analysis. This is a total of 740 parameters. In the interest of space and consistent with the substantive questions posed in the theoretical section, I will focus the discussion of the micro-level parameters on the estimates for $\beta_{1,c}$.

Figure 1 plots a smoothed histogram of the mean estimates of $\beta_{1,c}$ for the 148 clusters. The expected value of $\beta_{1,c}$ is positive for each cluster indicating that more-skilled respondents are more supportive of European integration. The magnitude of these estimates, however, varies significantly. The 95th percentile of these mean estimates (0.034) is nearly 5 times larger than the 5th percentile (0.007). The estimates also vary with respect to their statistical significance. Nevertheless, the estimates are generally precise. Only for those clusters in the bottom decile does the 95% confidence interval for $\beta_{1,c}$ include zero.[10]

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[8]Convergence was determined using a number of diagnostic tools including evaluation of time series plots and the calculation of $\sqrt{\hat{R}}$ as defined in Gelman et al (1995).

[9]Estimation was done using Gauss statistical software. I thank Kevin Quinn for generously sharing his code, which I used as a model for the analysis in this paper. In the simulation procedures for forming the posterior distributions, only every other of the final 800 simulations was kept for analysis. As discussed in Appendix A, these 400 simulations for each imputed data set were then combined across the analyses for the five imputed data sets producing a total of 2000 simulations on which the description of the posterior distribution was based.

[10]The estimates for the other micro-level parameters also varied significantly across clusters.
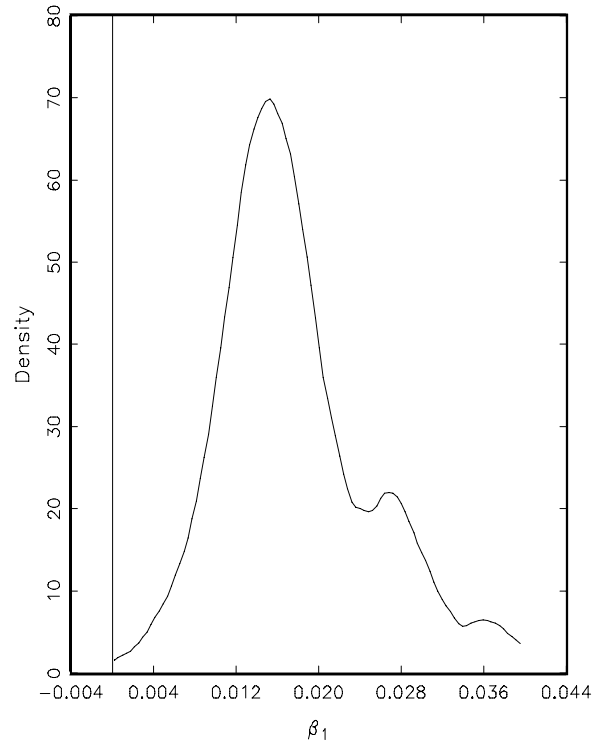
Figure 1: *Distribution of Expected Value of β_1 Across Country-Survey Clusters.*
This figure is a kernel density plot of the mean estimates of β_1 for the 148 country-survey clusters. The graph indicates, consistent with the theoretical framework, that more skilled respondents have systematically more favorable opinions about European integration but that there is significant variation in the magnitude of the estimated effect of skill on opinion.

Table 2 reports the mean and standard deviation of the posterior distribution of $\beta_{1,c}$ for the 15 clusters with the smallest and largest mean estimates. As in Figure 1, the table shows that the correlation between skill level and positive opinions regarding European economic integration is evident across all 148 clusters but the magnitude of the effect varies significantly. The table also indicates that many of the clusters for which the estimated skill cleavage was quite small and imprecise were from Denmark, a country with a relatively high degree of centralized wage bargaining, and from a group of relatively poorer countries by EU standards not as well endowed with skilled labor. In contrast, many of the clusters for which the magnitude of the skill effect is relatively large are in countries such as France and the United Kingdom with decentralized wage bargaining or in states like Germany and Austria that score highly on the skill endowment measure. This pattern of variation for $\beta_{1,c}$ is roughly consistent with the theoretical expectations developed in Section 2, but to evaluate those hypotheses systematically requires turning attention to the estimates of the macro-level parameters of the hierarchical model.

Comparative Context and the Effect of Skills on European Integration Preferences

The key hypotheses to be evaluated in this section focus on how comparative context systematically affects opinion formation over regional economic integration in Europe. I examine, in particular, how key characteristics of national labor markets account for variation in the individual-level effect parameters $\beta_0 \ldots \beta_4$. Table 3 presents a summary evaluation of the estimates of these contextual effects by presenting the means and standard deviations of the posterior distributions of the macro-level coefficients, $\alpha_{j,k}$, of the hierarchical model.

The key estimates for purposes of evaluating the hypotheses highlighted in the theoretical discussion are in the third column of Table 3 under the heading *Educational Attainment*.[11] The mean estimate for the effect of *Centralization* on

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The expected value of $\beta_{2,c}$ indicating the effect of *Ideology* on *Integration Opinion* was significantly positive in some clusters, significantly negative in others, and indistinguishable from zero in still others. The estimates of $\beta_{3,c}$ were more often than not negative suggesting that older respondents tended to have less positive views of integration. For some clusters, this effect was precisely estimated, and the 95% confidence interval did not include zero. Typically, however, the estimate was imprecise. Finally, the expected value of $\beta_{4,c}$ was generally negative indicating that, all else equal, women were less supportive of European integration. This effect was statistically significant in most but not all clusters.

[11]Some of the estimates for the other $\alpha_{j,k}$ parameters may also be of substantive interest. Generally, however, the results for the effects of *Centralization*, *Skill Endowment*, and *Unemployment* on β_2, β_3, and β_4 were much less precise than those for β_1 discussed in the text.

| | β_1 | |
Cluster	Mean	Standard Error
	Bottom Decile	
Denmark, Fall 1996	0.000	0.004
Denmark, Fall 1998	0.004	0.004
Denmark, Spring 1997	0.004	0.004
Denmark, Spring 1994	0.006	0.003
Denmark, Spring 1998	0.006	0.004
Greece, Fall 1994	0.007	0.004
Spain, Spring 1995	0.007	0.004
Greece, Spring 1996	0.008	0.004
Luxembourg, Fall 1997	0.008	0.006
Denmark, Fall 1997	0.008	0.004
Denmark, Fall 1994	0.009	0.004
Portugal, Fall 1997	0.010	0.005
Ireland, Spring 1995	0.010	0.005
Portugal, Spring 1994	0.010	0.004
Greece, Spring 1995	0.010	0.004
	Top Decile	
United Kingdom, Fall 1994	0.040	0.005
United Kingdom, Fall 1995	0.039	0.005
France, Fall 1997	0.038	0.005
France, Fall 1995	0.035	0.005
France, Spring 1998	0.035	0.005
France, Fall 1998	0.034	0.005
France, Spring 1997	0.034	0.005
United Kingdom, Fall 1996	0.032	0.004
Belgium, Fall 1997	0.030	0.005
France, Fall 1994	0.030	0.005
Austria, Fall 1995	0.030	0.005
Germany, Spring 1998	0.029	0.003
Austria, Fall 1996	0.029	0.005
United Kingdom, Spring 1996	0.029	0.004
France, Fall 1996	0.028	0.005

Table 2: β_1 *Estimates.* This table reports the bottom and top decile of estimates of β_1, the effect of skill on *Integration Opinion*.

β_1 is -0.052 with a standard deviation of 0.013. This estimate suggests that, all else equal, the expected value of β_1 decreases as *Centralization* increases. This finding is consistent with the hypothesis that because centralized wage bargaining tends to reduce wage inequality and thus the expected distributive consequences of integration, the skill cleavage in the electorate over regional economic integration is minimized in more centralized settings.

The mean estimate for the effect of *Skill Endowment* on β_1 is 0.0002 with a standard deviation of 0.0001. The positive parameter estimate is relatively precise, and the 95% confidence interval does not include zero. This result indicates, consistent with the theoretical discussion, that the skill cleavage over regional economic integration is larger in those countries relatively well endowed with skilled labor. Finally, the mean estimate for the effect of *Unemployment* on β_1 is -0.0007 with a standard deviation 0.0002. The parameter is again precisely estimated, and the result indicates that increasing unemployment dampens the estimated differences between skilled and unskilled workers in opinions about European economic integration.

The results presented in Table 3 indicate that key characteristics of national labor markets are significantly correlated with the parameter estimates of the effect of skill on European integration opinions. It is not clear, however, from these estimates whether the effect of these contextual variables is substantively significant. Figures 2 through 4 evaluate the magnitude of the contextual effects.

To determine the importance of the effect of *Centralization* on skill cleavages in public opinion over European integration, I simulated the consequence of increasing *Centralization* from a relatively low level, the United Kingdom's *Centralization* score, to a relatively high level, Denmark's *Centralization* score, on the value of β_1, the micro-level coefficient indicating the effect of skill levels on *Integration Opinion*. The result of this simulation then was the posterior distribution of the difference in β_1 at low and high levels of *Centralization*. These differences were then divided by the mean estimated value of β_1 for the United Kingdom (across all clusters) multiplied by 100.[12] This quantity expresses the differences as a percent of the United Kingdom's mean. Figure 2 is a kernel density plot of this quantity. The distribution is centered at -40% indicating that increasing the *Centralization* measure from the United Kingdom's value to Denmark's results in an expected decrease in the magnitude of β_1 that is 40% the expected value of the coefficient for the UK. In short, *Centralization* has a large effect on the estimated skill cleavage in the electorate over European integration.

An analogous simulation procedure was conducted to evaluate the substantive

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[12]The United Kingdom was chosen as the base because it had relatively large estimates for β_1, and therefore, the percentage estimates are conservative.

	Individual-level Coefficients				
		Educational			
	Constant	Attainment	Ideology	Age	Gender
Regressor	β_0	β_1	β_2	β_3	β_4
Constant	2.955	0.023	-0.043	-0.006	0.004
	(0.152)	(0.005)	(0.018)	(0.002)	(0.031)
Centralization	0.612	-0.052	0.080	0.009	-0.078
	(0.391)	(0.013)	(0.049)	(0.004)	(0.076)
Skill Endowment	-0.016	0.0002	0.0005	-0.0000	-0.0006
	(0.002)	(0.0001)	(0.0003)	(0.0000)	(0.0004)
Unemployment	-0.005	-0.001	0.001	0.0002	-0.002
	(0.009)	(0.000)	(0.001)	(0.0001)	(0.002)

Table 3: *Effect of Context on Integration Preferences.* These results are estimates of the contextual effects, $\alpha_{j,k}$. Each cell reports the coefficient estimate (mean posterior) and (in parentheses) its standard error. The primary column of interest is that for *Educational Attainment.* The estimates indicate that *Centralization* has a systematically negative effect on β_1, the micro-level estimate of the impact of *Educational Attainment* on *Integration Opinion.* This result indicates that the cleavage between skilled and unskilled respondents over European integration is reduced in those countries with centralized wage bargaining. Further, *Skill Endowment* has a positive effect on β_1 indicating that the cleavage is greater in those countries relatively well endowed in skilled labor.
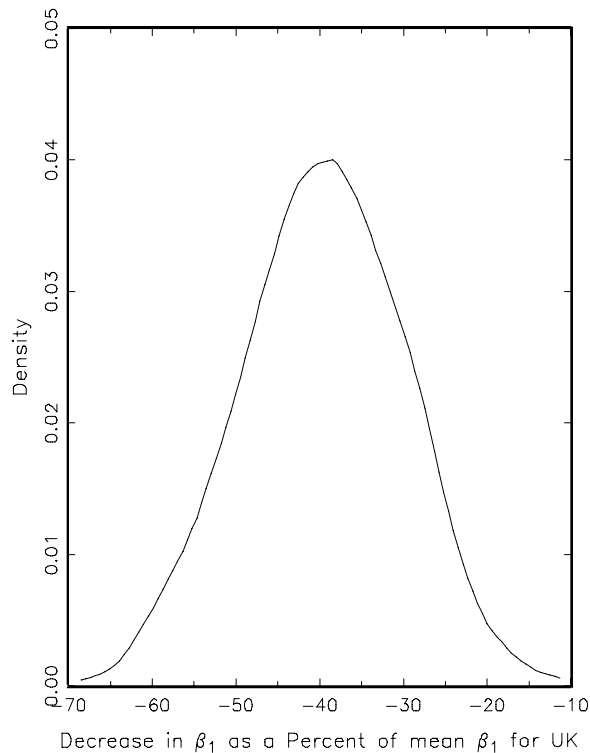
Figure 2: *Estimated Effect of Wage Bargaining Centralization on the Skill Cleavages in Public Opinion over European Integration.* I simulated the consequence of increasing *Centralization* from a relatively low level (United Kingdom) to a relatively high level (Denmark) on the value of β_1, the micro-level coefficient indicating the effect of skill levels on *Integration Opinion*. This figure is a kernel density plot of the posterior distribution of this effect expressed as a percent of the mean estimated value of β_1 for the United Kingdom. The graph indicates, consistent with the theoretical framework, that the skill cleavage is substantially reduced in those countries with more centralized wage bargaining institutions.

importance of *Skill Endowment* on the estimated effect of skill-type on European integration opinions. Specifically, I simulated the consequence of increasing *Skill Endowment* from a relatively low level, Spain's *Skill Endowment* score, to a relatively high level, Germany's *Skill Endowment* score, on the value of β_1. The resulting posterior distribution of differences in β_1 at low and high levels of *Skill Endowment* was again divided by the mean estimated value of β_1 for the United Kingdom and multiplied by 100. Figure 3 is a smoothed histogram of this quantity. The distribution is centered at 26% indicating that increasing the *Skill Endowment* measure from Spain's value to Germany's results in an expected increase in the magnitude of β_1 that is 26% the expected value of the coefficient for the UK. *Skill Endowment* also has a relatively large effect on the magnitude of the skill cleavage in public opinion over European integration.

To assess the magnitude of *Unemployment* on the estimated effect of skill-type on *Integration opinion*, I simulated the impact of increasing *Unemployment* from a low level, the United Kingdom's 1998 unemployment, to a relatively high level, Italy 1998, on the value of β_1. The resulting posterior distribution of differences in β_1 at low and high levels of *Unemployment* was divided by the mean estimated value of β_1 for the United Kingdom and multiplied by 100. Figure 4 is a kernel density plot of this quantity. The distribution is centered at -11% indicating that increasing the *Unemployment* measure from the United Kingdom's 1998 value to Italy's results in an expected decrease in the magnitude of β_1 that is 11% the expected value of the coefficient for the UK. *Unemployment* has a significant but relatively smaller effect on the magnitude of the skill cleavage in public opinion over European integration.

Overall, the findings presented in this section are strongly consistent with the hypothesized importance of contextual effects for opinion formation about European economic integration. Labor market characteristics that affect the distributional consequences of integration for labor market outcomes—particularly wage bargaining centralization and levels of skill endowment—significantly influence the magnitude of the skill cleavage in public opinion over European integration.

Robustness Checks

I checked the robustness of the results with several additional analyses. First, support for European integration has been operationalized in a number of ways in the literature. In addition to the question used to form the variable *Integration Opinion*, scholars have also used responses to the question "Taking everything into consideration, would you say that (OUR COUNTRY) has on balance benefited or not from being a member of the European Union?" to measure European integration support. I reran the analysis discussed in Sections 3 and 4 replacing
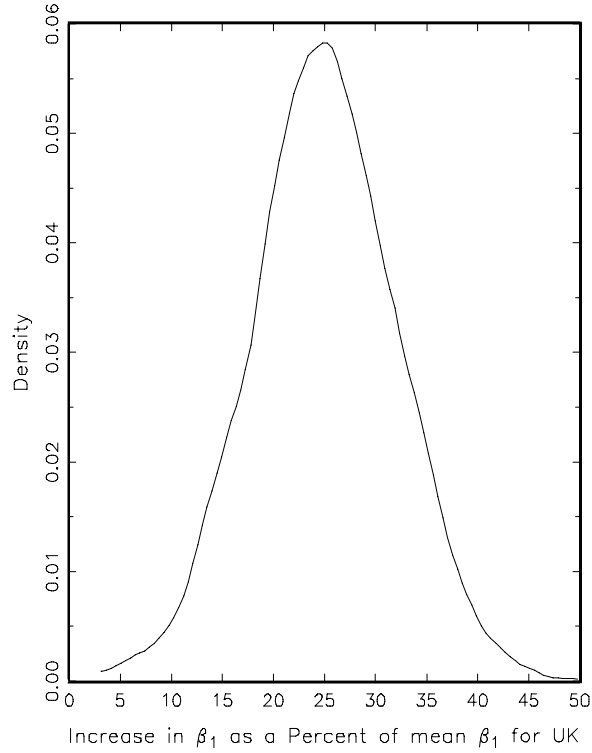
Figure 3: *Estimated Effect of Skill Endowment on the Skill Cleavages in Public Opinion over European Integration.* I simulated the consequence of increasing *Skill Endowment* from a relatively low level (Spain) to a relatively high level (Germany) on the value of β_1, the micro-level coefficient indicating the effect of skill levels on *Integration Opinion*. This figure is a kernel density plot of the posterior distribution of this effect expressed as a percent of the mean estimated value of β_1 for the United Kingdom. The graph indicates, consistent with theory, that the skill cleavage is substantially larger in those countries more endowed with skilled workers.
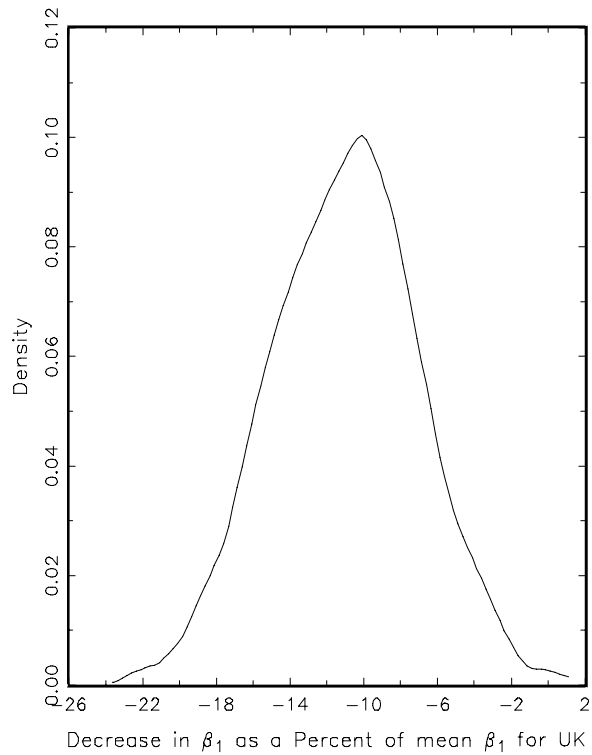
Figure 4: *Estimated Effect of Unemployment on the Skill Cleavages in Public Opinion over European Integration.* I simulated the consequence of increasing *Unemployment* from a relatively low level (1998 UK) to a relatively high level (1998 Italy) on the value of β_1, the micro-level coefficient indicating the effect of skill levels on *Integration Opinion*. This figure is a kernel density plot of the posterior distribution of this effect expressed as a percent of the mean estimated value of β_1 for the United Kingdom. The graph indicates that the skill cleavage is somewhat reduced in those countries with higher unemployment.

the dependent variable with responses to this alternative question. The results were qualitatively the same for this specification. The substantive effect of skills on opinions was somewhat larger in this analysis as was the effect of wage bargaining centralization on the estimates of β_1. These differences, however, were modest, and overall the results confirmed the key conclusions of the previous section.

In the specification discussion in Section 3, I pointed out that the inclusion of ideology in the micro-level equation might bias the estimates of the skill effect depending on what one believes the ideology variable is measuring. To investigate the consequences of including ideology in the baseline specification, I reran the analysis dropping *Ideology* from the micro-model (employing the original dependent variable *Integration Opinion*). These results were also substantially the same as the baseline specification. Although excluding *Ideology* did seem to affect the estimates of β_1 in some countries, the differences were rather small.

As was the case for support for European integration, alternative measures for national endowments have been used in other research. One such measure is capital per worker. I hypothesize that human and physical capital are highly correlated so that in those countries relatively well endowed with capital, integration benefits those individuals who are both skilled and capital owners. Consequently, I expect, as was the case with *Skill Endowment*, that higher scores on the capital per worker measure tend, all else equal, to increase the estimated skill cleavage, β_1, over European integration. An alternative interpretation of this specification is that countries with high capital per worker ratios are also relatively well endowed with skilled labor and so the capital per worker variable is just an alternative measure of the variable *Skill Endowment*. I reestimated the baseline specification substituting the capital per worker measure for *Skill Endowment*. The results were quite similar to those reported above. The key findings for *Centralization* and *Unemployment* were unchanged, and the substantive impact of capital per worker on β_1 was in the same direction and of comparable magnitude as that for *Skill Endowment*.

One contextual effect not tested in the baseline model is the role of the welfare state. Suppose that in thinking about the possible distributive effects of economic integration, workers weighed in their considerations the generosity of the state in providing compensation for losses due to integration. This role for the state and its relation to economic openness has been noted by a number of authors including Cameron (1978), Garrett (1998), Katzenstein (1985), and Rodrik (1998). To test this hypothesis, I added a measure of the generosity of the national welfare state to the contextual variables included in Equation 4. The specific measure used for welfare state generosity was national spending on labor-market programs (unemployment compensation, training, youth programs, etc.) as a percent of GDP. The inclusion of this variable did not significantly affect the estimated contextual effects for *Centralization* and *Skill Endowment*. The estimate for *Unemployment*,

however, was smaller and less precise. The results confirmed a reasonably robust negative effect of national spending on labor-market programs on β_1. All else equal, the skill cleavage in opinion formation over European integration is reduced in those countries that spend more on labor-market programs. This finding is broadly consistent with the major argument in this paper that the context in which international economic policy alternatives are considered significantly shapes patterns of opinion formation. It extends the definition of relevant context from explicit labor market characteristics such as wage bargaining institutions and national endowments to features of the welfare state.[13]

The choice of contextual effects for the baseline model was driven by interest in accounting for variation in the estimated effect of skill-type on European integration opinions, β_1. Two possible omitted contextual variables that might affect the cluster means rather than β_1 per se are inflation and trade openness.[14] To the extent that inflation measures poor economic performance, respondents of all types may have more negative views of Europe (Eichenberg and Dalton 1993; Anderson and Kaltenthaler 1996). On the other hand, countries more open to trade may not view further integration as generating additional adjustment costs but as providing mostly benefits as other EU members liberalize their markets. Neither of these hypotheses suggests that the contextual effect impacts the skill cleavage, but rather that countries with certain characteristics are likely to have different mean levels of support. Adding an inflation measure to the specification of the contextual effects does not have the hypothesized effect. Clusters with higher inflation do not have systematically higher or lower support for integration, controlling for the other variables. The key results for *Centralization*, *Skill Endowment*, and *Unemployment* were unaffected by the inclusion of the inflation variable. Adding the trade openness measure, however, did have the anticipated effect. More open economies had greater overall support for integration, but openness did not have a systematic effect on the estimates for the individual-level effects β_1, β_2, β_3, or β_4. Again the findings for the key contextual effects remained robust to this alternative specification.

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[13]Alternatively, the extension can be thought of in terms of what are the relevant wages that workers consider in evaluating policy alternatives. Including welfare state characteristics as part of the labor market context is consistent with the role of the state in generating a social wage (Cameron 1984) or influencing the degree of labor de-commodification (Esping-Andersen 1990).

[14]See Gabel (1998a, Chapter 5) for further discussion of contextual effects in European integration opinions not directly related to the skill cleavage.

5   Conclusion

This paper investigates how comparative context shapes public preferences over international economic policies. I contend that national institutions, particularly those that alter the incidence of the costs and benefits of policy alternatives, are powerful predictors of cross-national differences in opinion formation over international economic policies.

Specifically, the analysis examines how cleavages in public opinion over European economic integration vary across countries as a function of key characteristics of national labor markets. The main argument developed is that the skill cleavage in opinion formation over European integration depends on the degree of wage bargaining centralization. Centralized wage bargaining tends to reduce wage inequality, and so the actual distributive consequences of integration are attenuated by this institution. Evidence is presented that the more centralized are wage bargaining institutions, the smaller is the skill cleavage in the electorate over regional economic integration. Importantly, the fact that the estimated skill cleavage is sensitive to institutions that affect the incidence of the costs and benefits of policy alternatives is further evidence that the effects of policy alternatives on individuals' economic interests influence opinion formation. Although the interests-preferences link is confirmed in this study, it is clear that the link is conditional on key features of the political and economic context in which opinions are formed.

A   Methodology for Missing Data

The data constructed for analysis in this paper are not fully observed. Incomplete data can create a number of serious problems for making valid statistical inferences. For example, the most common approach in the social sciences for multivariate analyses of incomplete data is to drop observations with any missing data and analyze the complete cases exclusively. This standard method for dealing with missing values, known as "listwise deletion," can create two major problems. One is inefficiency suffered from throwing away information relevant to the statistical inferences being made. The second is that inferences from listwise-deletion estimation can be biased if the observed data differs systematically from the unobserved data.

Alternatives to listwise deletion for dealing with missing data have been developed in recent years. The most general and extensively researched approach is "multiple imputation" (King et al. (2000), Schafer (1997), Little and Rubin (1987), Rubin (1987)). Multiple imputation makes a much weaker assumption than listwise deletion about the process generating the missing data. Rather than assuming that the unobserved data is missing completely at random, multiple imputation is

consistent and gives correct uncertainty estimates if the data are missing randomly conditional on the data included in the imputation procedures.[15]

The approach has several variations but always involves three main steps. First, some algorithm is used to impute m values for each missing item and creating m completed data sets. Across these completed data sets, the observed values are the same, but the missing values are filled in with different imputations to reflect uncertainty levels. That is, for missing cells the model predicts well, variation across the imputations is small; for other cases, the variation may be larger, or asymmetric, to reflect whatever knowledge and level of certainty is available about the missing information. The second step simply involves analyzing each of the m data sets applying whatever standard complete-data statistical method the analyst would have used if there were no missing values. The final step combines the results from the m complete-data analyses to form a single set of parameter estimates and variances.

The first step in the multiple-imputation procedures was to impute missing observations for the contextual variables used in the analysis. I based the imputations on nine cluster-level variables including *Skill Endowment*, *Unemployment*, *Centralization*, inflation, capital per worker, union density, union coverage rates, spending on labor-market programs, and a Gini index measuring income inequality. The only missing data in this cluster-level imputation data set was for the centralization measure. The imputation model was a time-series-cross-sectional multivariate normal model with lags included for most of the nine variables and with a slight ridge prior. The algorithm used to implement the model is known by the acronym "EMis" because to generate imputations it combines a well-known Expectation Maximization missing data algorithm with a round of importance sampling. King et al. (2000) provide a complete explanation of the use of this algorithm for missing data problems. These imputation procedures were imple-

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[15]The multiple imputation procedures used in this paper actually require two conditions to be met. First, as discussed in the text, the probability that a data cell is missing may depend on observed data included in the imputation model but must be independent of unobserved data. In the imputation literature, this assumption is known as Missing At Random (MAR). Note that this assumption is weaker than assuming that the data are Missing Completely At Random (MCAR), which means that the probability that a data cell is missing does not depend on any data whether observed or not. Further, the analyst can make the MAR assumption more reasonable by including a large number of variables in the imputation model. The second condition is that the parameters describing the data are distinct from the parameters describing the missingness mechanism in the data. Schafer contends that in many situations similar to the analyses in this paper distinctness is a reasonable assumption, as knowing the data parameters provides little information about the parameters describing the patterns of missingness in the data set (1997, p. 11). If the missingness problem meets these two conditions, it is called ignorable and the imputation methods used in this paper are appropriate.

mented using *Amelia: A Program for Missing Data* (Honaker et al. 1999). Five imputed data sets were created for the contextual variables.

After creating these five imputed contextual variable data sets, I merged them with the Eurobarometer survey data. The resulting data sets included some missingness in the individual-level data. Consequently, for each of the 5 data sets I ran separate EMis algorithms in order to impute values for the missing survey data saving a completed data set from each run.[16] Each of the 5 final data sets contain 164,083 observations for the individual-level survey data and 148 observations for the cluster-level variables. The data sets contain the exact same non-imputed information and differ only in their imputed values for the missing data. The second step in the multiple-imputation analysis was to estimate the statistical model described in Section 3 for each imputed data set. Four hundred simulations of each parameter were saved from the analysis for each imputed data set. These were combined across the analyses to produce a total of 2000 simulations on which the description of the posterior distributions were based.

References

Alvarez, Michael, Geoffrey Garrett, and Peter Lange. 1991. "Government Partisanship, Labor Organization, and Macroeconomic Performance." *American Political Science Review* 85:539-556.

Anderson, Christopher, and Karl Kaltenthaler. 1996. "The Dynamics of Public Opinion toward European Integration, 1973-1993." *European Journal of International Relations* 2:175-199.

Bryk, Anthony, and Stephen Raudenbush. 1992. *Hierarchical Linear Models: Applications and Data Analysis Methods*. Newbury Park: Sage Publications.

Calmfors, Lars, and John Driffill. 1988. "Centralization of Wage Bargaining." *Economic Policy* 6 (April):14-61.

Cameron, David. 1978. "The Expansion of the Public Economy." *American Political Science Review* 72:1243-61.

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[16]These imputations included survey and contextual data in the analysis model plus additional variables that provided information useful for the imputations. For some of the key contextual variables, interaction terms were formed with the survey variables approximating the same form as the hierarchical model estimated in the analysis model.

Cameron, David. 1984. "Social Democracy, Corporatism, Labor Quiescence, and the Representation of Economic Interest in Advanced Capitalist Society." In John H. Goldthorpe (ed.), *Order and Conflict in Contemporary Capitalism.* New York: Oxford University Press.

Eichenberg, Richard, and Russell Dalton. 1993. "Europeans and the European Community: The Dynamics of Public Support for European Integration." *International Organization* 47 No. 4 (Autumn):507-534.

Esping-Andersen, Gøsta. 1990. *The Three Worlds of Welfare Capitalism.* Princeton: Princeton University Press.

Eurostat. 2000. *Eurostat Yearbook 2000: A Statistical Eye on Europe.* Luxembourg: Eurostat.

Gabel, Matthew. 1998a. *Interests and Integration: Market Liberalization, Public Opinion, and European Union.* Ann Arbor: University of Michigan Press.

Gabel, Matthew. 1998b. "Economic Integration and Mass Politics: Market Liberalization and Public Attitudes in the European Union." *American Journal of Political Science* 42 No. 3 (July):936-953.

Garrett, Geoffrey. 1995. "Capital Mobility, Trade, and the Domestic Politics of Economic Policy." *International Organization* 49:171-181.

Garrett, Geoffrey. 1998. *Partisan Politics in the Global Economy.* Cambridge: Cambridge University Press.

Gelman, Andrew, John Carlin, Hal Stern, and Donald Rubin. 1995. *Bayesian Data Analysis.* London: Chapman & Hall.

Golden, Miriam. 1993. "The Dynamics of Trade Unionism and National Economic Performance." *American Political Science Review* 87 (June):439-454.

Hall, Peter, and Robert Franzese. 1998. "Mixed Signals: Central Bank Independence, Coordinated Wage-Bargaining and European Monetary Union." *International Organization* 52, 3 (Summer):505-535.

Hartog, Joop, and Coen Teulings. 1998. *Corporatism or Competition? Labor Contracts, Institutions, and Wage Structures in International Comparison.* Cambridge: Cambridge University Press.

Honaker, James, Anne Joseph, Gary King, and Kenneth Scheve. 1999. *Amelia: A Program for Missing Data.* Gauss Version 1.07. Cambridge, MA: Harvard University. Available at http://gking.harvard.edu/.

Iversen, Torben. 1998. "Wage Bargaining, Central Bank Independence, and the Real Effects of Money." *International Organization* 52, 3 (Summer):469-504.

Iversen, Torben. 1999. *Contested Economic Institutions: The Politics of Macroeconomics and Wage Bargaining in Advanced Democracies.* Cambridge: Cambridge University Press.

Iversen, Torben, and David Soskice. 2000. "An Asset Theory of Social Policy Preferences." Harvard University Mimeo.

Jackman, Simon. 2000. "Estimation and Inference via Bayesian Simulation: An Introduction to Markov Chain Monte Carlo." *American Journal of Political Science* Vol. 44, No. 2. (April):369-398.

Katzenstein, Peter. 1985. *Small States in World Markets: Industrial Policy in Europe.* Ithaca, NY: Cornell University Press.

King, Gary, James Honaker, Anne Joseph, and Kenneth Scheve. 2000. "Analyzing Incomplete Political Science Data: An Alternative Algorithm for Multiple Imputation." Paper prepared for the presentation at the Annual Meetings of the American Political Science Association, Boston, MA.

King, Gary, Ori Rosen, and Martin Tanner. 1999. "Binomial-Beta Hierarchical Models for Ecological Inference." *Sociological Methods and Research* 28:61-90.

Lange, Peter, and Geoffrey Garrett. 1985. "The Politics of Growth: Strategic Interaction and Economic Performance in Advanced Industrial Democracies, 1974-1980." *Journal of Politics* 49:257-274.

Lindley, D.V., and A.F.M. Smith. 1972. "Bayes Estimates for the Linear Model." *Journal of the Royal Statistical Society Series B* 34:1-41.

Little, Roderick J. A., and Donald B. Rubin. 1987. *Statistical Analysis with Missing Data.* New York: J. Wiley & Sons.

Melich, Anna. 1999. *Eurobarometer 46.0: Personal Health, Energy, Development Aid, and the Common European Currency, October-November 1996* [Computer File]. 2nd Release. Brussels, Belgium: INRA (Europe) [producer], 1997. Koeln, Germany: Zentralarchiv fuer Empirische Sozialforschung/Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributors].

Melich, Anna. 1999. *Eurobarometer 47.0: Images of Germany, Consumer Issues, Electronic Information, and Fair Trade Practices, January-February 1997* [Computer File]. 2nd Release. Brussels, Belgium: INRA (Europe) [producer], 1997. Koeln, Germany: Zentralarchiv fuer Empirische Sozialforschung/Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributors].

Melich, Anna. 1999. *Eurobarometer 48.0: Holiday Travel, October-November 1997* [Computer File]. Brussels, Belgium: INRA (Europe) [producer], 1998. Koeln, Germany: Zentralarchiv fuer Empirische Sozialforschung/Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributors].

Melich, Anna. 1999. *Eurobarometer 49.0: Food Product Safety, Child Sex Tourism, Health Care, and Cancer, April-May 1998* [Computer File]. Brussels, Belgium: INRA (Europe) [producer], 1998. Koeln, Germany: Zentralarchiv fuer Empirische Sozialforschung/Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributors].

Melich, Anna. 2000. *Eurobarometer 50.0: European Parliament and Radioactive Waste, October-November 1998* [Computer File]. Brussels, Belgium: INRA (Europe) [producer], 1998. Koeln, Germany: Zentralarchiv fuer Empirische Sozialforschung/Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributors].

OECD. 1997. "Economic Performance and the Structure of Collective Bargaining." *OECD Employment Outlook.* Paris: OECD.

Persson, Torsten, and Guido Tabellini. 1992. "The Politics of 1992: Fiscal Policy and European Integration." *Review of Economic Studies* 59:689-701.

Persson, Torsten, and Guido Tabellini. 1999. *Political Economics: Explaining Economic Policy.* Manuscript June 24, 1999.

Program on International Policy Attitudes. 2000. *Americans on Globalization: A Study of U.S. Public Attitudes.* University of Maryland Manuscript.

Reif, Karlheinz, and Eric Marlier. 1995. *Eurobarometer 41.0: Trade Issues, Blood Donation, Aids, and Smoking, March-June 1994* [Computer File]. Conducted by INRA (Europe), Brussels. ICPSR ed. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [producer], 1995. Koeln, Germany: Zentralarchiv fuer Empirische Sozialforschung/Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributors].

Reif, Karlheinz, and Eric Marlier. 1997. *Eurobarometer 42.0: The First Year of the New European Union, November-December 1994* [Computer file]. 2nd ZA edition. Conducted by INRA (Europe), Brussels. Koeln, Germany: Zentralarchiv fuer Empirische Sozialforschung [producer], 1995. Koeln, Germany: Zentralarchiv fuer Empirische Sozialforschung/Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributors].

Reif, Karlheinz, and Eric Marlier. 1998. *Eurobarometer 43.1: International Trade and Radiation Protection, April-May 1995* [Computer File]. Conducted by INRA (Europe), Brussels. 2nd SSD ed. Goeteborg, Sweden: Swedish Social Science Data Service [producer], 1995. Goeteborg, Sweden: Swedish Social Science Data Service/Koeln, Germany: Zentralarchiv fuer Empirische Sozialforschung/Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributors].

Reif, Karlheinz, and Eric Marlier. 1997. *Eurobarometer 44.1: Education and Training throughout Life and the Common European Currency, November-December 1995* [Computer File]. Conducted by INRA (Europe), Brussels. ZA ed. Koeln, Germany: Zentralarchiv fuer Empirische Sozialforschung [producer], 1997. Koeln, Germany: Zentralarchiv fuer Empirische Sozialforschung/Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributors].

Reif, Karlheinz, and Eric Marlier. 1998. *Eurobarometer 45.1: European Union Rights, Sun Exposure, Work Safety, and Privacy Issues, April-May 1996* [Computer File]. Brussels, Belgium: INRA (Europe) [producer], 1996. Koeln, Ger-

many: Zentralarchiv fuer Empirische Sozialforschung/Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributors].

Rodrik, Dani. 1998. "Why Do More Open Economies Have Bigger Governments?" *Journal of Political Economy* 106 (5):997-1032.

Rodrik, Dani, and Tanguy van Ypersele. 1999. "Capital Mobility, Distributive Conflict and International Tax Coordination." Harvard University Mimeo.

Rubin, Donald B. 1987. *Multiple Imputation for Nonresponse in Surveys*. New York: J. Wiley & Sons.

Schafer, Joseph L. 1997. *Analysis of Incomplete Multivariate Data*. London: Chapman & Hall.

Scheve, Kenneth F., and Matthew J. Slaughter. 2000a. "Labor-Market Competition and Individual Preferences Over Immigration Policy." Forthcoming *The Review of Economics and Statistics*.

Scheve, Kenneth F., and Matthew J. Slaughter. 2000b. "What Determines Individual Trade-Policy Preferences." Forthcoming *Journal of International Economics*.

Soskice, David, and Torben Iversen. 1998. "Multiple Wage-Bargaining Systems in the Single European Currency Area." *Oxford Review of Economic Policy* 14 (3):110-124.

Western, Bruce. 1993. "Postwar Unionization in Eighteen Advanced Capitalist Countries." *American Sociological Review* 58 (April):266-282.

Western, Bruce. 1998. "Causal Heterogeneity in Comparative Research: A Bayesian Hierarchical Modelling Approach." *American Journal of Political Science* 42, 4 (October):1233-1259.

Wong, George, and William Mason. 1991. "Contextually Specific Effects and Other Generalizations of the Hierarchical Linear Model for Comparative Analysis." *Journal of the American Statistical Association* 86, 414 (June):487-503.