

Public support for Latin American integration: an econometric model for the assessment of individual and contextual factors

Apoyo popular a la integración latinoamericana:
un modelo econométrico para evaluar factores
individuales y contextuales

■
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■ Abstract

The purpose of this article is assessing factors that affect Latin American people's opinions on regional integration. By means of hierarchical logistic regressions, variables at both individual and national level were considered and fixed and random effects were taken into account. All variables included at the individual level, both socio-demographic and ideological, were found to be significant factors as well as some cross-level interactions. Likewise, there is a significant country effect on the probability of Latin American people supporting integration.

Keywords: integration, Latin America, civil society, public opinion, multilevel model.

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■ Resumen

Este artículo procura analizar los factores que más influyen en la opinión de los latinoamericanos sobre la integración de la región. Mediante regresiones logísticas multinivel, el análisis incluyó variables individuales y nacionales así como efectos fijos y aleatorios. Todas las variables analizadas a nivel individual – sociodemográficas e ideológicas – resultaron ser indicadores significativos así como algunas interacciones entre factores individuales y nacionales. Asimismo, las probabilidades de que los latinoamericanos apoyen la integración también indican la presencia de un significativo efecto país.

Palabras clave: integración, América Latina, sociedad civil, opinión pública, modelo multinivel.

INTRODUCTION

Over the last four decades, the issue of Latin American and Caribbean integration has become relevant and largely discussed. This cross-regional integration has however failed to be implemented and rather priority has been assigned to sub-regional or bilateral agreements. This has led to the coexistence of a variety of political coalitions, trade arrangements and sectoral cooperation within the region, rather than to the existence of an actual continental community.¹

1. AEC, ALBA, ALADI, CAN, CARICOM, MERCOSUR, SICA, UNASUR, *among others*. OTHERS.

Factors that have hindered the realization of an actual “Latin American Union”¹ are diverse and mainly related to the lack of effective community institutions, the absence of macroeconomic coordination and low intra-regional trade (Rojas and Altmann, 2006). Likewise, large asymmetries between Latin American countries have been quoted as the major obstacle for the fulfillment of this integration (Rojas, 2006). That is, macroeconomic indica-

tors, economic and political systems, employment rates, education, poverty, population, ethnic groups, income distribution, among many other variables, differ largely across the region. Heterogeneous contexts are observed not only between countries but within countries themselves.

On the other hand, some theorists have failed to apprehend the integration process by reducing it to a mere economic or political phenomenon, pointing to the need of including the social sphere into its treatment and understanding. According to these authors, integration is a project that is not restricted to political or governmental spheres but includes “another” integration, that is produced and reproduced in large private spaces where civil society resides, and therefore more inclusive and pluralistic approaches become relevant (Rojas, 2006). Others (Domínguez, 2003; Grandi, 1997; Serbin, 2008) go even further and claim that the integration process has been characterized by the absence of citizenship and a strong democracy deficit, with scarce or null impact of civil society on the structuring of the regional agenda, either by the direct participation or that of their representatives in parliament or congress.

According to Manenteau-Horta (1979), including people’s opinions and psychology are crucial for assessing to what extent these opinions promote or block initiatives for unity between nations. The author maintains that the Latin American integration process

¹ By American Union I refer to a system such as the European Union, i.e. a single market and common trade policies through a standardized system of laws for all member states including the free movement of citizens, goods, services, and capital as well as a monetary union, as proposed and developed by Balassa (1962).

has followed a different path, whereby governments have focused only in establishing an economic inter-regional interchange whereas public opinion has been completely neglected. Although as from the 1990s the integration process debate has gone beyond the economic dimension to include the social dimension, the latter still requiring further elaboration and presence within both the political and the academic discussion in Latin America.

INTRODUCING LATIN AMERICANS' OPINIONS

Latin Americans have shown different attitudes vis-a-vis integration, and although there is major support for economic alliances, political unification is not as popular (Latinobarometro, 2009). Movements calling for a more "social" integration (Mercosur: Social and Supportive, Another Integration is Possible, among others. See DelloBuono and Avila, 2007; Serbin, 2007, and over the last few years there have also been demonstrations against potential multilateral trade agreements - especially in sectors such as agriculture, labor unions and other social organizations.

Given these ideas, is Latin American integration as proposed by top government officials truly a citizen's aim? If so, who supports integration? Who rejects it? Which individual factors determine why a particular person has a positive or negative attitude towards unification? On the other hand, heterogeneity

and asymmetries observed across Latin American countries have been mentioned as one of the major obstacles for implementing integration. Therefore, the question would be whether this heterogeneity between nations also plays a role in opinion on integration. Thus, the overarching question to be addressed by this article is *which factors - either at the individual, national or cross level interaction - strongly influence Latin Americans' opinion regarding the economic and political integration of the region.*

Latinobarometro's 2010 Report notes "globalization and relations with other countries have two dimensions: social and political elites of each country and increasingly the view of citizens" (2010: 29),² and the question on the "elitist bias" on regional integration processes becomes relevant (Cuatrés and Grunberg, 2007:11). Moreover, Seligson states that "in democracies, public opinion can count a great deal, and a strong opposition to integration might well spell the end of the regionalist movement in Latin America" (1999: 130). A model to assess civil society's opinion would therefore contribute and hopefully reveal new information for understanding this slow Latin American integration process.

² Author's translation.

THEORETICAL DISTINCTIONS AND PREVIOUS FINDINGS

Taking into account previous findings, at the end of this section I conclude that both individual characteristics and country features have been found to be efficient predictors of attitude towards integration across different studies.

CHARACTERISTICS AT THE INDIVIDUAL LEVEL

Within the region, revealing information can be found in *Latinobarometro's Reports*. This organization has tracked Latin American integration and public support since 1997 by means of univariate-descriptive analysis. The 2007 report suggests that more than a half of Latin Americans agree to either economic or political integration. That is, 55% support a common parliament, 51% the elimination of taxes for intra-regional trade and 44% the free movement of citizens within the region. The study also shows the heterogeneity of attitudes towards integration. Regarding the abovementioned political and economic issues, only 7 countries³ show percentages above 50% whereas another 11 show minor discrepancies regarding these issues (*Latinobarometro*, 2007).

According to the 2010 report, economic integration is supported by a majority of Latin American countries

(71% “somewhat favor” or are “very supportive”). This trend, however, differs across the region, South American countries being more supportive than those from Central America. Political integration, on the other hand, is less supported by Latin Americans, with a regional average of 59% and more variation between countries. Available data indicates that support of political integration has decreased since the study's first wave in 1997.

Overall, the Report refers to a “bipolar trend”, since majorities support economic integration, whereas they tend to reject political cooperation and free movement of individuals (*Latinobarometro*, 2009). Exceptions are Argentines and Brazilians, who display a more positive attitude towards political integration. Both countries have been leading and promoting the regional integrationist project during the last decades, hence these ideas may have been more accepted by citizens (*Latinobarometro*, 2010). The latter shows the influence of the country context on supporting integration.

In terms of individual characteristics, women (56%) and groups in lower socio-economic (64%) and educational levels (66%) tend to be less supportive of economic integration. According to this descriptive study, Latin American most excluded and least skilled groups tend to view regional integration less confidently.

Apart from studies conducted by *Latinobarometro*, Latin Americans' support of integration has not been

³ Colombia, Dominican Republic, El Salvador, México, Nicaragua, Peru and Uruguay.

substantially explored, especially in terms of multivariate analysis. An exception is a study by Seligson (1999) that focuses on individual-level factors as predictors of economic integration. The author concludes that “perceived benefits of integration” and “perception of personal and national economic situation” are important factors as well as socio-demographic variables such as gender and educational level. Confirming Latinobarometro’s findings, gender and educational level have a significant effect on displaying a supportive or non-supportive stand on integration.

As to conclusions of Latinobarometro and Seligson for the Latin-American context, Anderson and Reichert (1996) and Gabel and Palmer (1995) show that citizens with low levels of competitive advantages (education and occupational skills) are likely to be negatively predisposed towards the European Union. On the other hand, studies carried out for the North American integrationist project (NAFTA) suggest that people made up their minds in this respect on the basis of arguments about trade and not about their own self-interest, suggesting that there might be a “rational public” at the individual level (Uslander, 1998:341). In a different study (Merolla *et al.*, 2005), economic variables were tested and results show that in the United States and Canada more skilled individuals support NAFTA, whereas no significant effect was found for Mexican public opinion. Expected economic benefits and other utilitarian variables have been often pointed out

as important factors in the opinion on integration and several scholars have concentrated their attention on these variables. Nevertheless, as suggested by Merolla and her colleagues, non-economic interests or variables such as nationalism were found to substantially influence opinions on NAFTA, to the point of canceling out the effects of economic interests.

The latter argument is also supported by Hooze and Marks (2004). The authors postulate that economic interest variables account for 15% of total variance in public opinion regarding the European Union but the influence of these factors is overshadowed by identity variables, i.e. exclusive national identity, multiculturalism, and national attachment. Together, these variables explain 20.8% of support for the European Union. According to these scholars, most researchers have conceptualized European integration as an economic phenomenon, and therefore considered public opinion as a function of the distributional consequences of market liberalization. Nonetheless, the European Union is also a supranational polity with extensive authority over those living in its territory. It is hence plausible that European integration engages group, and above all, national identities.

Carey (2002), on the other hand, shows that national attachment, together with national pride have a significant negative effect on support for European integration. National identity has also been identified as a constraint

on this support in other studies of the European Union (Christin and Trechsel, 2002; Gutierrez and Medrano, 2001). Other studies, however, have recognized strong national attachment as being positively related to the desire for further European integration (Citrin and Sides, 2004; Risse, 2002).

The importance of economic and non-economic interest variables is also found in the study by Gabel (1998a). Through regression analyses of Eurobarometer surveys covering 1978-1992, the author tests individual-level theories of public support for European integration showing that both partisanship as well as the economic benefits expected from European integration are significant factors. The partisan context has also been studied by Inglehart, Rabier, and Reif (1991) who find that supporters of leftist parties were less favorable toward integration than those of right-wing parties. They attributed this difference to the standpoint of the relevant parties on European integration.

COUNTRY LEVEL OR CONTEXTUAL CHARACTERISTICS

Along with individual level variables, country characteristics have drawn the attention of researchers for explaining public opinion on the European Community. Studies performed by Eichenberg and Dalton (1993) and Gabel and Palmer (1995) suggest that citizen support for European integration is constantly influenced by a com-

ination of domestic and international factors. National economic conditions and national governments affect evaluations of supranational institutions. Equally important, results show that international economic and political factors are critical influences on citizen support for the European Community.

Likewise, other studies have focused on these indirect political and economic factors for supporting the European Union. Some researchers found a significant, though weak negative relationship between public support for integration and inflation or unemployment, and a weak positive effect of economic growth (Anderson and Kaltenthaler, 1996; Bednar, Ferejohn, and Garrett, 1996; Eichenberg and Dalton, 1993). Other studies, on the contrary, found no significant relation between these national variables and citizens' support for European Union integration (Anderson and Reichert, 1995; Gabel and Whitten, 1997).

Relevant for the current research are Brinegar and Jolly's (2005) findings. As aforementioned, lower-skilled groups are likely to evaluate integration more negatively. The authors, however, argue that skill levels matter but they can only be understood in the framework of national factor endowments and varieties of capitalism, specifically skill endowment and welfare state type. They suggest that other individual-level factors, such as ideology, are conditioned or tempered by each country's political-economic institutions and other national contextual influences.

They also indicate that on carrying out integration analyses cross-level interactions must be taken into account. The authors observed a strengthening of effects in individual-level interactions when cross-level interactions are considered. They suggest shifting the debate in favor of studies supporting the European Union into cross-level interactions in a hierarchical model so as to allow a deeper exploration of linkages between individual- and national-level factors, especially when studying education and ideological variables (see also Gabel, 1998b; Eichenberg and Dalton, 2007; and Jacquier, 2012).

A MULTI-LEVEL MODEL FOR ASSESSING SUPPORT OF LATIN AMERICAN INTEGRATION

Bearing in mind the above findings, both individual characteristics and country features have been found to be effective indicators of attitudes towards integration across different studies. Hence, this article purports to examine which of these characteristics are the most effective predictors of support for Latin American integration. At the individual level, socio-demographics (age, gender, educational level, personal economic situation) and ideological variables (political leanings and national pride) are included. Following Brinegar and Jolly's (2005) findings, skill endowment is considered a factor at the country level. Since, as opposed to Europe, in the Latin American

context it is not possible to observe welfare systems, income distribution inequality is considered as a measure of welfare and incorporated in the current analysis. Likewise, differences across Latin American countries (especially regarding economic and political systems) have been mentioned as an important constraint for the fulfillment of regional integration. For this reason, I also assess to what extent support of integration at the individual level is affected by differences between countries, i.e. people's location or country effect is taken into account. Finally, I analyze whether these individual factors behave differently across national characteristics, that is, to what extent cross-level interaction affects public opinion. According to the abovementioned theories, significant interaction between country level variables and education and ideological variables are expected to be found.

Latinobarometro's database was used for carrying out this study. The sample for its 2009 Survey was designed to ensure a sampling error of 3%, with a 95% confidence interval. Face to face interviews (n=20.204) were applied to adults⁴ across 18 Latin American countries⁵ within representative samples. For country-level

⁴ 18+ years old, except Brazil and Nicaragua 16+ years old.

⁵ Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, Venezuela.

variables, on the other hand, data from both the Statistical Yearbook 2010 of the Economic Commission for Latin America and the Caribbean (ECLAC) and the Socio-Economic Database for Latin America and the Caribbean (CEDLAS and The World Bank) (SEDLAC) were utilized.

According to the revised literature and research objectives, a two-level model with a set of independent variables and two dependent variables was defined. As individual level variables two groups are distinguished: socio-demographics and ideological.⁶ The two dependent variables are two dichotomous variables: questions refer to individuals' opinion on economic integration and the region's political integration expressed in agreement or disagreement. As mentioned earlier, the two country level variables are "skill endowment" and "inequality of income distribution". For income distribution, the Gini coefficient⁷ was used as a measure of distribution inequality in each country. In addition, some cross-level interactions were expected to be significant. A multiplying effect between country-level variables – skill endowment and income distribution

(Gini coefficient) - and individual-level variables - ideological and education - were assessed in the following analysis.

Given the measurement level of the variables and objectives of this research, the procedure for data analysis is a logistic regression. This technique enables ranking the relative importance of independents, assessing interaction effects, and understanding the impact of covariate control variables, usually explained in terms of odds ratios (Garson, 2007).

The current research problem also presents a hierarchical structure. Multi-level analysis models the structure and provides estimations of variability of regression coefficients across different contexts, i.e. allows an analysis of both between group and within group variability. Using this technique it is possible to analyze both micro and macro levels and hence avoiding the atomistic or ecological fallacies.

Thus, considering the data's strict hierarchical structure and the measurement level of the variables, the analysis is based on a Hierarchical Logistic Regression or Logistic Multilevel Regression. The model considers that the dichotomous (0,1) or binary dependent variable Y_{ij} follows a Bernoulli distribution (Hox, 2010) $Y_{ij} \sim \text{Bernoulli}(1, \pi_{ij})$ with a conditional variance $\text{var}(Y_{ij} | \pi_{ij}) = \pi_{ij}(1 - \pi_{ij})$ where π_{ij} is the probability for individual i of presenting the characteristic of interest, i.e. $\pi_{ij} = \Pr(Y_{ij}=1)$ or being in favor of economic and political integration, in country j . Consequently, at the single level the model is defined as:

⁶ As socio-demographic factors I have included: age, gender, education level, and personal economic situation. What previous findings on European context indicated to be effective indicators were included as ideological variables, i.e. nationalism or national pride and political tendency.

⁷ A value of 0 expresses total equality and a value of 1 maximal inequality.

$$\text{Logit}[\pi_{ij}] = \log \left[\frac{\pi_{ij}}{1-\pi_{ij}} \right] = \beta_0 + X'_{ij}\beta_1$$

where X'_{ij} refers to the vector of explanatory variables. Coefficient β_0 represents the model constant and the vector $\beta_1 = (\beta_{11}, \beta_{12}, \dots, \beta_{1k})$ includes the k coefficients of the covariates. The equation does not include the lowest-level residual variance because it is part of the specification of the error distribution. When the latter is binomial, the variance is a function of the population proportion and it is not estimated separately (Hox, 2010).

When incorporating the country level into the model to assess the national context over the dependent variable, the constant of the model is allowed to vary across countries. The logit multilevel model:

$$\text{Logit}[\pi_{ij}] = \log \left[\frac{\pi_{ij}}{1-\pi_{ij}} \right] = \beta_{0j} + X'_{ij}\beta_1$$

$$\beta_{0j} = \beta_0 + u_j$$

where β_0 is the mean of the constant for the total population. It is the random effect of the model which is normally distributed with mean 0 and variance and shows the difference attributed to country. Since the logit multilevel equation represents the log odd of experiencing an event, the exponentiated parameters of the model are interpreted in terms of *Odd Ratios* (OR).

To estimate the multilevel model, the MLwin 2.23 program was used. In

order to compute the parameters of a generalized linear model the maximum likelihood method was utilized. Nevertheless, when a multilevel structure is taken into account a more complex estimation procedure arises. To deal with this problem, MLwin uses the quasi-likelihood method which transforms a discrete response model into a continuous. After this linearization, the model is estimated using iterative generalized least squares (IGLS) or restricted IGLS (RIGLS). The linearization method requires using an approximation. MLwin provides a marginal quasi-likelihood (MQL) and penalized (or predictive) quasi-likelihood (PQL) and both methods include either 1st order or 2nd order terms of the Taylor series expansion (Rasbash *et al.*, 2004).

MAIN FINDINGS

All covariates included in the model were found to be significant in the bivariate analysis carried out before the multilevel modeling. The Wald test⁸ was used to determine the significance of each model as a whole, as well as the significance of coefficients.

The method of analysis was stepwise. As Rasbash *et al.* (2004) suggest, the most sensible way of fitting

⁸ The Wald test contrasts the null hypothesis that parameters (fixed or random) are significantly different from zero in the population. This value follows a Chi-square distribution with the correspondent number of degrees of freedom (Twisk, 2006).

a multilevel model is to start with the basic components and then building up models of increasing complexity by adding indicators and checking significance. The sequential modeling started with the null model, and then predictors were added according to blocks defined in the theoretical section: sociodemographics, ideological, ecological and finally, the interaction terms for both dependent variables.

The intercept-only model (null model) was used to predict the probability of being in favor of Latin American economic and political integration; it assesses to what extent individual opinion varies across countries, one of the issues approached in this research. This is done comparing the single-level intercept with the random intercept, i.e. fixed effect versus random effect.

The estimate of the single-level model for the ratio of supporting economic integration vis-à-vis not supporting it equals $\exp(1.621) = 5.06$, which is simply the same sample ratio between supporters and non-supporters, meaning that the odds of supporting are 5 times larger than opposing integration (see Table 1). The parameter's significance ($p < 0.01$) was derived from the Wald test. When the same ratio is analyzed for political integration, the odds for supporting are lower, that is, the odds of being in favor are 2.5 times higher compared to being against it at a significant level.

As can be seen in Table 1, the log-odds of supporting integration account for multilevel structure. When the inter-

cept is allowed to vary randomly across countries, the general intercept for country j is estimated: $1.721 + \dots$, where the variance of - or the between-country variance in the log-odds of supporting integration - is estimated as 0.321 (SE=0.110), which is significant at 1% level.⁹ Hence, differences between Latin American countries are significant.

When country effect is taken into account, the expected log-odds of support for economic integration are 1.721 (on average across all Latin American individuals across all countries) equal to odds of $\exp(1.721) = 5.59$. Applying the logistic transformation, it corresponds to a predicted probability of $1/(1+\exp(-1.721)) = 0.85$, i.e. 85% probabilities of an "average" country supporting economic integration. As for political integration, on the other hand, the same grand mean of expected probabilities for the 18 countries equals 72%.

⁹ The Wald test statistic for the random effect is with 1 degree of freedom

Table 1. Parameters and standard errors of an intercept-only calculating the probability of supporting Latin-American integration (S.E.s are placed in parentheses).

Parameter	Estimate
<i>Fixed Effect Intercept (at level 1)</i>	
Economic Integration	1.621 (0.021)***
Political Integration	0.918 (0.017)***
<i>Fixed Effect Intercept (at level 2)</i>	
Economic Integration	1.721 (0.136)***
Political Integration	0.942 (0.098)***
<i>Random Effect</i>	
Economic Integration	0.321 (0.110)***
Political Integration	0.167 (0.057)***

Notes: *** significant at 1% level, ** significant at 5% level, * significant at 10% level

Assuming countries' log-odds of support to be approximately normally distributed with a mean of 1.721 and a variance of 0.321 in the case of economic support, the 95% confidence interval for equals [. Converting these log-odds into predicted probabilities, the 95% confidence intervals (CI) are (0.94, 0.65), meaning that although the probability of supporting economic integration is 85% percent for all Latin-American countries, probabilities between countries vary significantly since when random effects are considered and the model does not include predictors, support varies between 65 and 94%.

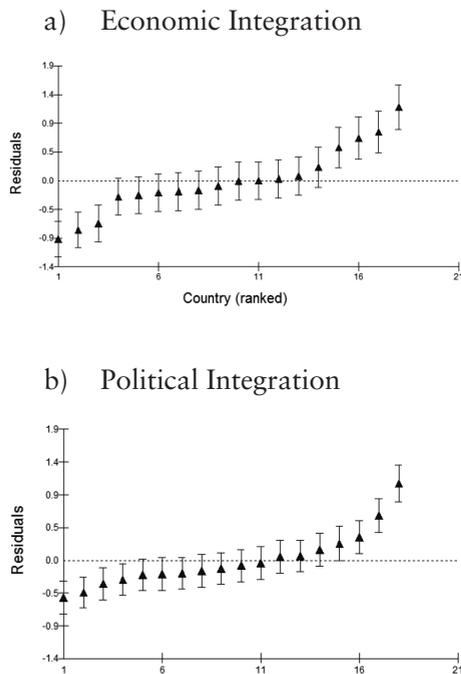
Due to the multilevel structure, variation between and within countries

can be computed. In the case of political integration, probabilities of variation range between 54 and 85%. Likewise, within group or cluster average variability equals, i.e. the average probabilities of being in favor of political integration vary between 67 and 75% within one country.

In order to examine estimates of country effects obtained from the null model, caterpillar plots ranking country effects and 95% confidence intervals and the log-odds scale (see Figure 1). The dotted line at zero represents the mean log-odds for supporting economic integration across all countries. A country whose confidence interval does not overlap the line at zero is said to differ significantly from the average at the

5% level (Steele, 2008). Although in the case of political integration countries lean more towards the mean log-odds line, it is still possible to identify some outliers that coincide with findings of earlier studies: the three triangles to the right and above the line are Argentina, Brazil and Uruguay, who have been leading and promoting the regional integrationist project.

Figure 1. Caterpillar plot showing country residuals with 95% confidence intervals for log-odds of supporting integration



Another important element provided by the null model for assessing the country effect on opinion is the intraclass correlation or the variance

partition coefficient (VPC).¹⁰ Assuming normally distributed random-effects, the estimated intraclass correlation equals , given that in the logistic regression formula errors¹¹ are assumed to follow a standard logistic distribution with mean 0 and variance (Hedeker, 2007). Hence, the intraclass correlation for the null model for supporting economic integration and political integration , i.e. the correlation between individuals within a country is 9% and 5% for both models. In other words, between 5 and 10% of the residual variance of supporting economic and political integration can be attributable to differences between countries. This analysis allows assessing that variation occurs at both the individual and national levels.

As stated earlier, in order to build the model a blockwise procedure was used, starting with the sociodemographic variables, followed by the ideological variables and finally including ecological variables. The Gini coefficient and skill endowment were centered around their mean and as for the interaction terms, the same aforementioned categories were used as references for

¹⁰ The VPC for a two level random intercept model is the proportion of total residual variance which is attributable to level 2, i.e. , that can be interpreted as the correlation between two level 1 units in the same higher level unit (Rasbash *et al.*, 2004)

¹¹ If the error distribution is binomial, the variance is a function of a population proportion and it does not have to be estimated separately in the regression equation.

individual variables. Tables 2 and 3 present results of models 2 to 5, which include covariate parameters.

The last model is Model 5, wherein indicators are interpreted by means of exponentiated parameters. Thus, is read as the multiplying effect on the odds of the dependent variable for a 1-unit increase in . If is binary then is interpreted as the odds ratio, comparing the odds for units with relative to odds for units where (Rasbaset *al.*,2004).

Firstly, taking into account only the main effects, the constant of the model can be read as the mean probability of supporting economic integration across all countries of the reference profile, i.e. the probability - for a 40 years old Latin American woman in bad economic circumstances and primary education who

declares being proud of her country and right wing political leanings - of agreeing to economic integration is 0.75 and 0.61 for political unification. This woman also lives in an average country in terms of the Gini index (0.519) and her skill endowment equals 8.4 years of schooling. The exponentiated parameter for men $\exp(0.090)=1.09$ shows that the odds for men are 10 % higher than women. Likewise, the probability¹² of men supporting economic integration is 76 % ($1/1+\exp(-1.088+0.090)$) whereas for women it is 75%. Thus, although the effect of gender is significant, probabilities of supporting integration are fairly similar. As for political integration, gender difference is higher: the odds of men having a positive opinion are 1.21 times higher than for women.

¹² Cluster-specific probability

Table 2. Parameters and standard errors of parameters predicting the probability of supporting Latin-American economic integration (S.E. in parentheses)

Support for economicIntegration = 1								
	Model 2		Model 3		Model 4		Model 5	
FixedPart								
Cons	1.232	(0.142)***	1.065	(0.148)***	1.085	(0.153)***	1.088	(0.155)***
Men	0.094	(0.043)**	0.091	(0.043)**	0.092	(0.043)***	0.090	(0.043)***
(age-40)	0.002	(0.001)	0.002	(0.001)	0.002	(0.001)	0.002	(0.001)
About average	0.386	(0.053)***	0.383	(0.053)***	0.384	(0.053)***	0.369	(0.053)***
Good	0.609	(0.065)***	0.603	(0.066)***	0.604	(0.066)***	0.576	(0.066)***
Secondary	0.077	(0.051)	0.073	(0.051)	0.071	(0.051)	0.069	(0.052)
Higher	0.397	(0.067)***	0.391	(0.067)***	0.390	(0.067)***	0.379	(0.068)***
Not proud			0.176	(0.043)***	0.177	(0.043)***	0.189	(0.044)***
None			0.046	(0.062)	0.046	(0.062)	0.079	(0.063)
Left			0.139	(0.060)***	0.140	(0.060)***	0.136	(0.061)***
Center			0.176	(0.059)***	0.177	(0.059)***	0.191	(0.060)***
(gini-0.519)					0.078	(3.087)	2.510	(3.310)
(skill endow-8.4)					0.099	(0.096)	0.071	(0.104)
(sk.end-8.4).Not proud							0.073	(0.033)***
(sk.end-8.4).None							0.095	(0.048)***
(sk.end-8.4).Left							-0.126	(0.045)***
(sk.end-8.4).Center							-0.027	(0.046)
(gini-0.519). Not proud							-2.184	(0.980)***
(gini-0.519).None							-1.052	(1.393)
(gini-0.519).Left							-8.569	(1.329)***
(gini-0.519).Center							-1.867	(1.309)
(gini-0.519).Secondary							2.839	(1.142)***
(gini-0.519).Higher							1.946	(1.502)
(sk.end-8.4).Secondary							0.002	(0.039)
(sk.end-8.4).Higher							0.067	(0.056)
Random part								
	0.313	(0.108)***	0.317	(0.109)***	0.338	(0.116)***	0.349	(0.119)***

Notes: *** significant at 1% level, ** significant at 5% level, * significant at 10% level

Table 3. Parameters and standard errors of parameters predicting the probability of supporting Latin-American political integration (S.E.s are placed in parentheses)

Support for political integration = 1				
	Model 2	Model 3	Model 4	Model 5
Fixed part				
Cons	0.504 (0.101)***	0.435 (0.106)***	0.454 (0.099)***	0.461 (0.099)***
Man	0.134 (0.035)***	0.124 (0.036)***	0.124 (0.036)***	0.119 (0.036)***
(age-40)	0.002 (0.001)	0.002 (0.001)	0.002 (0.001)	0.002 (0.001)
About average	0.366 (0.045)***	0.362 (0.045)***	0.360 (0.045)***	0.346 (0.046)***
Good	0.454 (0.054)***	0.441 (0.054)***	0.439 (0.054)***	0.422 (0.054)***
Secondary	0.075 (0.042)*	0.069 (0.042)	0.064 (0.043)	0.055 (0.043)
Higher	0.204 (0.053)**	0.197 (0.053)***	0.192 (0.053)***	0.190 (0.054)***
Not proud		0.111 (0.036)***	0.110 (0.036)***	0.104 (0.036)***
None		-0.098 (0.051)*	-0.100 (0.051)*	-0.075 (0.052)
Left		0.174 (0.050)***	0.174 (0.050)***	0.186 (0.050)***
Center		0.022 (0.048)	0.021 (0.048)	0.040 (0.049)
(gini-0.519)			-0.527 (1.846)	3.110 (2.034)
(skill endow-8.4)			0.121 (0.058)**	0.150 (0.064)**
(gini-0.519).Not proud				-1.494 (0.794)*
(gini-0.519).None				-3.809 (1.157)***
(gini-0.519). Left				-7.625 (1.069)***
(gini-0.519). Center				-1.197 (1.050)
(gini-0.519). Secondary				0.551 (0.918)
(gini-0.519). Higher				-0.766 (1.166)
(skill endow-8.4).Not-Proud				-0.020 (0.026)
(skill endow-8.4).None				0.023 (0.037)
(skill endow-8.4).Left				-0.041 (0.035)
(skill endow-8.4). Center				0.015 (0.036)
(skill endow-8.4).Sec-ondary				-0.024 (0.030)
(skill endow-8.4). Higher				-0.063 (0.041)
Random part				
	0.145 (0.050)***	0.146 (0.051)***	0.119 (0.042)***	0.117 (0.041)***

Notes: *** significant at 1% level, ** significant at 5% level, * significant at 10% level

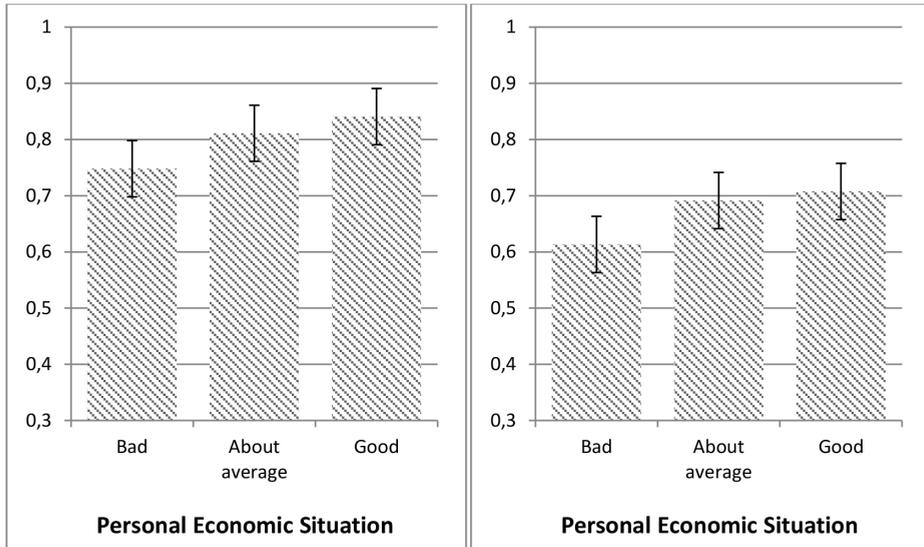
Personal economic situation turns out to be an effective indicator. The expected probability differs 9% to 84% versus 75% in the case of higher economic level respondents. The same is observed in opinion regarding political integration where the odds of supporting integration for individuals with a good economic position are 53% higher than in those whose position is less favorable. Figure 2 represents probabilities of personal economic situation and 95% confidence intervals.

Figure 2. Predicted population average probabilities for categories of personal economic situation

economic integration of a person with a good economic situation is 0.84, this probability varies widely between countries, going from 0.60 to 0.94. This appears more marked in the case of bad economic situation respondents where the average 75% probabilities of favoring integration goes from 46 to 90% when the analysis is extended to country-level. The same is observed regarding opinion on political integration, where the average probability of support of a person with a good economic situation is 0.71, although across countries this value varies from 0.55 to 0.83.

a) Support economic integration

b) Support political integration



Using the random-intercept model, 95% confidence intervals for the country level are calculated for the different economic categories. While the average probability of supporting

Likewise, the average probability of supporting economic integration of respondents with higher education equals 81%. Compared to primary education, the odds for a more skilled

person are 46% higher (1.46), and predicted probabilities for less skilled respondents reaches 75%. The 95% confidence interval for higher education can also be estimated ($\beta = (1.28, 1.67)$), where the relevant within cluster odds ratio differs significantly from 1, that is, the value of 1 or below that reflects no relationship does not lie within the interval (Twisk, 2006). When educational level is analyzed as an indicator for opinion on political integration, it is observed that the odds for respondents with higher education is 1.21 times those of a person with primary education, which is lower than the effect on support for economic integration. Although the odds ratio of secondary and primary education is not significant for both dependent variables, the difference between secondary and higher education was tested obtaining significant results.¹³ The latter suggests that the most important difference of support for integration between categories of education is that between the most educated respondents compared to both primary and secondary categories. Hence, the interpretation of this relation is done in terms of generalized odds ratios. The odds of supporting economic integration for the most educated respondents versus the *average*

of primary and secondary education is times higher in most skilled individuals.

Up to now, more educated, higher socio-economic level individuals are most supportive of integration, probably because they consider it as an opportunity of moving across the region looking for educational or work prospects. Less competitive groups in terms of labor market, namely women and less educated persons, are more skeptical regarding such integration.

When ideological variables are analyzed, Latin Americans who declare being proud of his/her country show a lower probability of supporting economic and political integration than those not proud of their country, being a significant indicator of opinion with regard to both economic and political integration. Across the 18 analyzed countries, average probabilities of supporting economic integration are 78 % in the case of those who are not proud of their country and 75% for respondents expressing pride of their country, when controlling for all other variables included in the model. As for support of political integration, the odds for not proud respondents are 21 % higher than those who declare being proud of their country. In terms of political preference, center tendency respondents agree most with economic integration when compared to right wing respondents (odds 1.21 times higher) whereas compared to leftist individuals, odds of agreeing are more or less similar. The odds ratio for left wing versus right wing respondents are

¹³ A test for the significance of differences was carried out finding that the difference for higher and secondary education was significant with chi-square statistic of 20.738 (in support for economic integration) and 6.346 (in support for economic integration) with 1 degree of freedom.

15 % higher. When the second level variation is taken into account, probabilities of supporting integration of left wing adherent vary widely, ranging from 0.527 to 0.912, depending on the country. The latter variation is similar for other political affiliation categories examined across countries. As for support for political integration, only left wing is found to be significant compared to the right wing category. Nevertheless, and going further into the analysis, the left wing category presents a significant difference with both center and none categories (8.073 and 22.973 chi-square statistic respectively with 1 degree of freedom). The same is observed for the difference between center and no tendency categories (chi-square statistic 4.806 with 1 degree of freedom).

Both higher-level variables were found not significant in explaining opinion on economic integration and only skill endowment had an important effect on support for political integration. The parameter for skill endowment shows that a one year increase in the average years of education of a country's labor force has an incremental effect on the odds of agreeing with integration in an individual's response. On the other hand, the Gini index's effect shows that the more unequal the income distribution in a country the higher the probabilities of supporting integration among those living in that country.

Cross-level interactions included in the model offer substantial information.

In order to facilitate interpretation of the results, three characteristic values of the uncentered ecological variables were calculated and related to the ideological and educational individual-level indicators.

Observing the effect of both national pride and country level variables, it can be seen that these effects are significant at 1% level for the opinion on economic integration; the multiplying effect of the Gini index and national pride is also significant for supporting political integration. The interaction term between skill endowment and national pride is positive on the odds of supporting economic integration. For both categories of national pride, probabilities of support increase when values of skill endowment are higher, but the trend is more pronounced in the not proud category (the line is steeper, as seen in Figure 3). As can be observed at the plot axis in Figure 3, the lowest and highest characteristic values of skill endowment (SE) are 6.890 and 9.258 respectively. For countries whose SE equals 9.258, probabilities of supporting integration of those proud of his/her country are 0.76, whereas those not proud they are 0.80. In terms of odds ratios, the odds for supporting economic integration in a country with the most skilled labor force are 1.29 times higher for those who are not proud of the country versus those who are proud. On the other hand, in countries with a less skilled labor force (SE=6.890) the odds ratio equals 1.09, that is, odds are more or less similar for supporting

economic integration. The graphical representation of this interaction term shows a “fanning out” tendency, that is, the range of probabilities of supporting integration is narrower (roughly the same) for national pride in countries where labor force is less skilled.

Figure 3. Interaction effect of skill endowment and national pride on support for economic integration



A “fanning in” tendency, on the other hand, is observed for the interaction term of national pride and income distribution. There is an effect of national pride on the odds of supporting integration which show a wider gap in countries with a lower Gini coefficient, i.e. in countries with a more equal income distribution. The odds for not proud versus proud of their country in more equally distributed countries is 31 % higher, whereas within more unequal

countries this ratio is 10% for supporting economic integration.

In countries with an average income distribution (Gini coefficient=0.519) odds of supporting economic integration are 1.21 times higher for respondents who are not proud of their country versus those who are proud of it. This ratio equals 1.11 in the case of political integration. Finally, in most unequal countries, the odds for supporting economic and political integration are more or less similar for proud and not proud respondents.

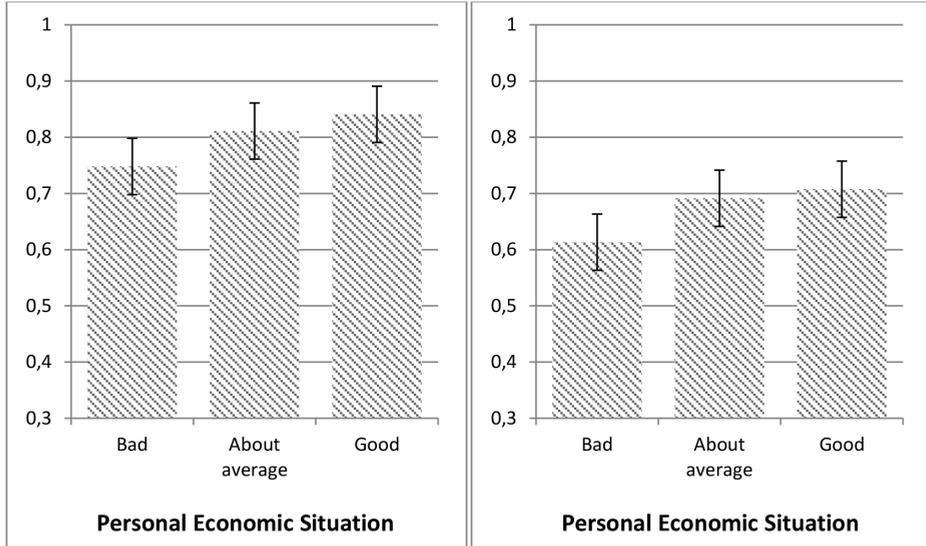
While national pride is an efficient factor at individual level, when combined with a country level variable the effect is more pronounced in countries where income is more equally distributed and labor force more skilled. As seen in Figure 4, probabilities of supporting integration of respondents who are not proud of their country do not change significantly if the country is more equal or unequal in terms of income distribution. In contrast, for those respondents who are proud of their country, probabilities increase more strongly when countries become more unequal.

Figure 4. Interaction effect of income distribution and national pride in support for economic and political integration

economic integration for left wing compared to right wing category are 1.38 times higher in countries with least skilled labor force.

a) Support economic integration

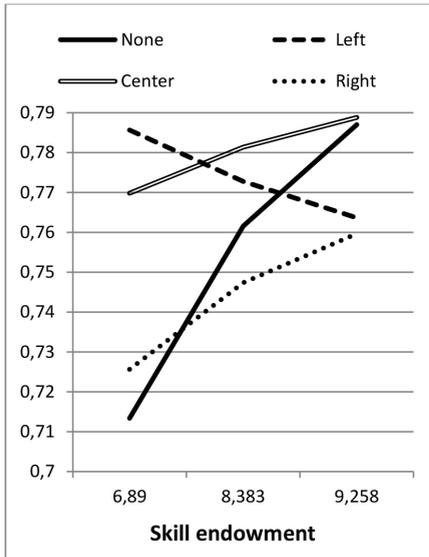
b) Support political integration



Observing the interaction term of political affiliation and skill endowment shown in Figure 5, it can be seen that in none and left preferences, the significant terms present a contrasting tendency when considering skill endowment. In countries with a more skilled labor force, left wing individuals have lower probabilities of supporting economic integration than left wing respondents from less skilled labor force countries. Similarly, odds for supporting economic integration of left wing compared to right wing respondents are the same (odds=1.00) in countries with the most skilled labor force, whereas odds for supporting

For the no political tendency, on the other hand, an increasingly steep line is observed, meaning that in countries with less skilled labor force, respondents without political preference are less likely to support integration, while in countries with a more skilled labor force respondents with no political preference are more supportive of regional economic integration.

Figure 5. Interaction effect of skill endowment and political tendency on support for economic integration

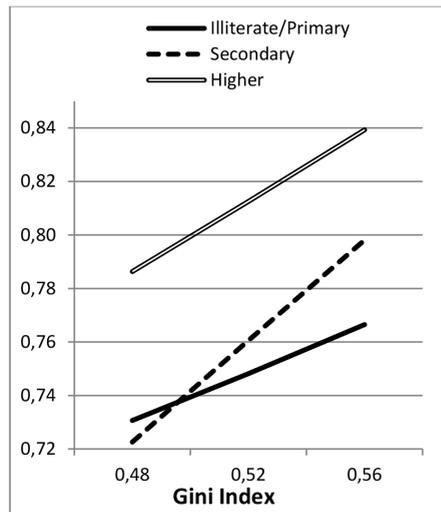


Combining the Gini coefficient with educational level (see Figure 6) turns out to be a significant indicator of support for economic integration. The positive effect can be interpreted as the more unequal the country, the higher the probabilities of supporting economic integration for the three categories of education across countries. In countries where income is more equally distributed (Gini index=0.480) predicted probabilities of supporting economic integration for primary/illiterate, secondary and higher education categories are 0.73, 0.72 and 0.78, respectively. In terms of probabilities based on the reference category, probabilities of supporting integration in a more equally distributed country are

higher in individuals with a higher educational level (0.57) and lower for respondents with secondary education (0.48) compared to the primary category (0.50).

However, for secondary versus primary education when examining more unequally distributed countries the opposite trend prevails. That is, the odds of supporting economic integration for the secondary education category are 1.21 times higher, and for higher education category is 1.58 times higher, when both groups are compared to the reference category (primary).

Figure 6. Interaction effect of income distribution and education on support for economic integration



On the other hand, when political preferences are taken into account, probabilities of supporting both economic and political integration show an

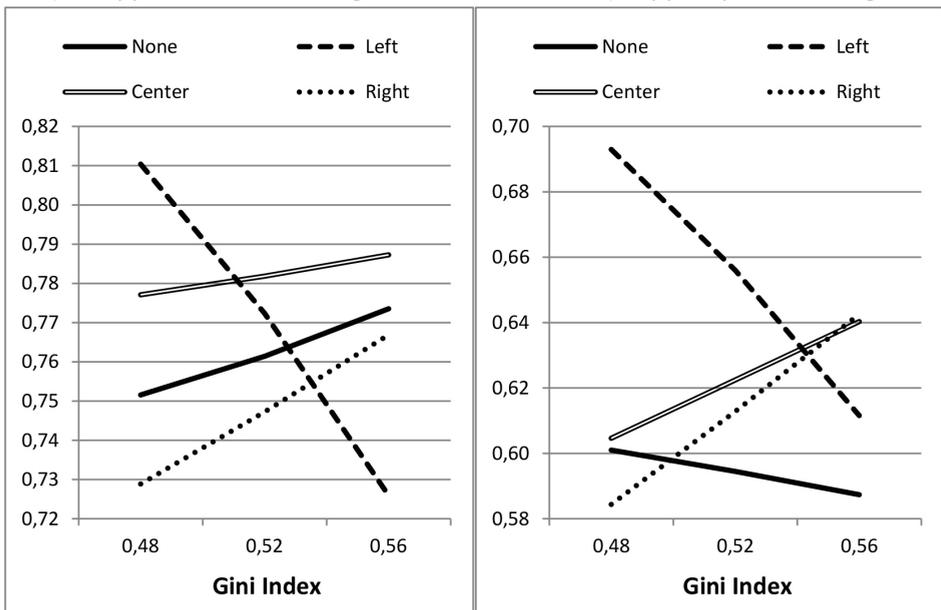
opposite trend for left wing respondents compared to right and center political preferences depending on the country's income distribution. As seen in Figure 7, in countries where income is more equally distributed, the odds for supporting integration for left wing compared to right wing respondents are 1.59 times higher. In contrast, when the same odds ratio is analyzed within countries with the most unequally distributed income, the odds of supporting economic integration for left wing individuals are 0.81 times higher (19 percent times lower) than right wing respondents.

Overall, countries with more unequal income distribution have higher probabilities of supporting integration, but the opposite applies for leftist respondents. Compared to right wing individuals, the odds for supporting political integration for left wing respondents from more equally distributed countries are 1.62 times higher. In countries where income is more asymmetrically distributed, the odds of agreeing with political unification are 0.80 times lower for left wing than for right wing respondents.

Figure 7. Interaction effect of income distribution and political preference on support for integration

a) Support economic integration

b) Support political integration



CONCLUSIONS

Factors affecting public support for regional integration have been assessed by means of statistical analysis, finding results consistent with those of earlier studies. Findings also indicate that when carrying studies on public opinion in Latin America, cross-level interaction should be taken into account.

Results show that public opinion is a complex, multidimensional problem and atomistic or ecological fallacies may be avoided by bringing into the analysis the complexity and multiple levels of reality. The study proposes an analytical model which broadens the debate on Latin American issues by including linkages between countries' structures and individuals, assessing the relation of the countries' structure and individual characteristics and citizens' opinions and decisions.

Finally, this paper incorporates the problem of Latin American integration from the citizens' standpoint and characteristics. Rather ignored by the debate on regional integration, the civil society has an important role to play in the process. Although integration has been proposed first and foremost by the economic and political elites of each country, in the long run those who will be daily living and experiencing integration shall be citizens, hence the success or failure of the process will depend on support for integration by the Latin American people.

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