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The Renaissance of Political Culture or the Renaissance of the Ecological Fallacy?

Mitchell A. Seligson

“If within-system regressions do not differ from zero in all systems, but the total regression does differ from zero, the ecological correlation is spurious.”¹ Adam Przeworski and Henry Teune in this quotation from their seminal study of comparative methodology alert readers to the risk of committing the classical ecological fallacy, first described by Robinson, when attempting to overcome one of the great challenges in comparative research, bridging the gap between micro and macro levels of analysis. As is well known, Robinson demonstrated that patterns found at the (macro) level of the system may contradict the true patterns found at the (micro) within-system level.² Advances made by Gary King toward solving the ecological inference problem work well when individual-level data are absent or difficult or costly to obtain, as long as one develops a data base of many, relatively homogeneous ecological units.³ But in recent years researchers who have rich individual-level data bases have been aggregating their data at the national level. Not everyone is persuaded of the validity of their comparisons, however. For example, serious questions have been raised about Ronald Inglehart’s “postmaterialist values.”⁴

The purpose of this article is to recall Przeworski and Teune’s warning against a particular form of the ecological fallacy, the individualistic fallacy. The individualistic fallacy is the error “of incorrectly imputing to the higher order unit the aggregation of values of individuals.”⁵ This article will reexamine the conclusions drawn by what may be the most important effort since Gabriel Almond and Sidney Verba’s *The Civic Culture* to bridge the micro-macro gap in comparative politics. In an impressively broad and influential body of research, Ronald Inglehart makes an explicit link between an aggregation of micro-level attitudes, denominated as political culture, and the macro-level variable of regime type.⁶ Specifically, Inglehart attempts to show that a particular form of political culture, civic culture, is strongly linked to the emergence and stability of democracy. He finds a direct causal connection between what he calls the civic culture syndrome, on the one hand, and democracy, on the other.

The cornerstone of Inglehart’s approach rests upon the variable of interpersonal trust. This variable is also central to Robert Putnam’s explanation of democracy in Italy in *Making Democracy Work*.⁷ The logic of *The Civic Culture* was straightforward: no trust, no secondary associations, no genuine political participation, and no democracy. In other words, individuals in a society must trust each other in order to form and join civil society organizations. In the aggregate, then, societies undergird-

ed by this individual level of high trust and the consequent construction of a strong civil society ought eventually to emerge as stable democracies. Inglehart elaborates further on this thesis by including a measure of support for revolutionary change. This variable is, in effect, the low or negative end of the system affect variable that was an important component of Almond and Verba's conception of civic culture.⁸ Inglehart adds to their notion of civic culture yet a third variable, life satisfaction.⁹ Those who are more satisfied with their lives are thought to be more likely to support democratic rule over the long run.

Inglehart finds that these three variables—interpersonal trust, support for revolutionary change, and life satisfaction—form a “broad syndrome of related attitudes... [that] show impressive stability over time.” “Life satisfaction, political satisfaction, interpersonal trust, and support for the existing social order all tend to go together. They constitute a syndrome of positive attitudes toward the world one lives in.”¹⁰ Hence there are two key elements of Inglehart's thesis: the interconnectedness of these three attitudes and their link with democracy.

The empirical data presented by Inglehart suggest that a syndrome has indeed been uncovered.¹¹ In a LISREL model estimated across countries as the unit of analysis, the coefficients between the individual items and the index of civic culture constructed from them are +.60 for interpersonal trust, +.79 for life satisfaction, and -.81 for support for revolutionary change. Thus, Inglehart seems to have satisfied the first component of his thesis: that a syndrome of interconnected variables has been found. In Inglehart's LISREL model that tests the second element, he finds a direct coefficient of .74 between civic culture (measured in 1981–1986) and years of continuous democracy, 1900–1986. He concludes that “political culture is a crucial link between economic development and democracy; . . . over half of the variance in the persistence of democratic institutions can be attributed to the effects of political culture alone.”¹²

Inglehart's findings notwithstanding, aggregating survey data to produce a single data point carries great risk. Scholars have long known that means can seriously distort the underlying distributions of data sets, yet Inglehart's work relies upon national means to characterize the culture of each country in his data base. Moreover, while a national culture can provide a contextual environment that can boost or suppress certain attitudes and behaviors, Inglehart himself repeatedly emphasizes that individual attitudes are crucial. For example, in discussing the importance of trust on the renaissance of political culture, he states: “A sense of trust is also required for the functioning of the democratic rules of the game: one must view the opposition as a *loyal* opposition, who will not imprison or execute you if you surrender political power but can be relied upon to govern within the laws and to surrender political power reciprocally if your side wins the next election.”¹³ He continues, emphasizing the importance of individual values:

A long-term commitment to democratic institutions among the public is also required, in order to sustain democracy when conditions are dire. Even when democracy has no reply to the question, What

have you done for me lately?, it may be sustained by diffuse feelings that it is an inherently good thing. These feelings in turn may reflect economic and other successes that one experienced long ago or learned about second-hand as part of one's early socialization.¹⁴

More recently, Inglehart approvingly cites Axelrod's game theoretic work on cooperation, which suggests that social norms directly influence individual cooperative and noncooperative behavior.¹⁵ Social norms, then, may well interact with individual values. Inglehart's findings support that effect. Within most societies, more highly educated individuals have higher interpersonal trust than those with less education, and among the advanced industrial societies the gap in trust between low and high education widens considerably.¹⁶ I am unaware, however, of any political culture research that argues that individual attitudes are irrelevant or that they systematically produce behaviors regularly at variance with those attitudes. After all, it is individuals who vote, participate, and even rebel. While they do so in part based on national norms, their own values are presumed to matter directly for their own behavior. Hence, on the basis of Inglehart's finding of a link between trust and democracy, one would not predict for any country that people with lower levels of trust would be more supportive of democracy, while those with higher levels of trust would be less supportive, although it is possible to imagine conditions under which that reversal might occur. If that reversal were widespread, however, one would not expect to find macro-level associations linking high trust to democracy. In fact, one would normally predict a positive micro-association, even if a weak one, between trust and support for democracy, producing congruence between micro- and macro-level associations.

If half of the population of a nation expresses high interpersonal trust and the other half low interpersonal trust, to avoid the individualistic fallacy it is necessary to know whether the high trust half participates in civil society organizations more than the low trust half. If no test is made for that within-system relationship, the converse proposition, that those with low trust may participate in civil society organizations more than those with high trust, can not be excluded.¹⁷ In short, if political culture does not operate at the individual level eventually to produce democracy at the system level, by what mechanism could it be possibly operating? It is therefore vitally important to verify the macro-level findings with micro-level analysis whenever such data are available, as they are in the case of Inglehart's data sets. If the macro-level associations are not supported at the micro-level, the burden of the argument to explain these discrepancies falls directly on the shoulders of the researcher who is making the macro-level claims.

In the absence of micro-level analysis, researchers ought to wonder whether Inglehart's findings are an artifact of the individualistic fallacy. If they were, his data would conform to the pattern depicted by Przeworski and Teune, as shown in Figure 1.¹⁸ In this hypothetical case of the ecological fallacy, in countries A, B, C, and D the micro-level association between interpersonal trust and democracy is near zero, while the macro-level association across all four countries is strongly positive. The

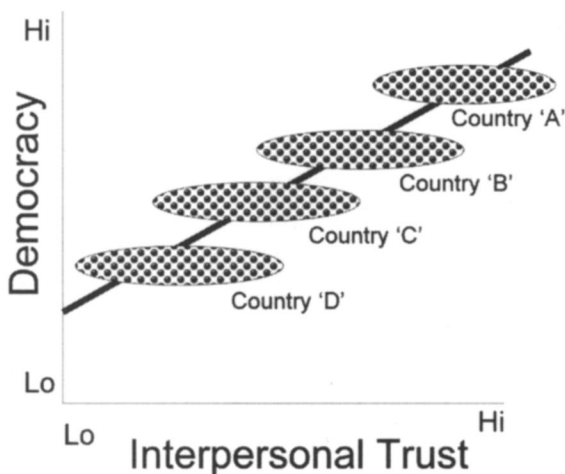
patterns strongly suggest that the system-level positive association is spurious, that democracy is predicted not by interpersonal trust but by one or more other factors not shown in Figure 1. This article tests Inglehart's thesis by analyzing data at both the macro and micro levels.

The Macro-Level Data: Evidence of Spuriousness

A limitation of the early research on the link between civic culture and democracy was the truncated nature of the samples used. Of course, the original study of civic culture included only one developing country, Mexico. Inglehart does a great service in building the World Values Survey data set that contains data from many more countries, although Latin America has been represented by only Argentina, Brazil, Chile, and Mexico. This larger data set reinforces Inglehart's earlier work on the importance of interpersonal trust. In discussing his use of the new World Values Survey, Inglehart reports that "levels of interpersonal trust among mass publics are closely linked with the number of years for which democratic institutions have functioned continuously in those societies, showing a highly significant .72 correlation globally."¹⁹

To make up for the limited coverage of Latin America, I incorporate cases from the Latinobarometer (a survey modeled after the Eurobarometer), which covers all of the mainland countries from Mexico to the tip of South America, with the exception of Belize, Suriname, and Guyana.²⁰ The trust item used in the World Values survey is

Figure 1 Hypothetical Ecological Fallacy: Trust and Democracy (Each Dot in the Ellipses Represents Individual Countries)



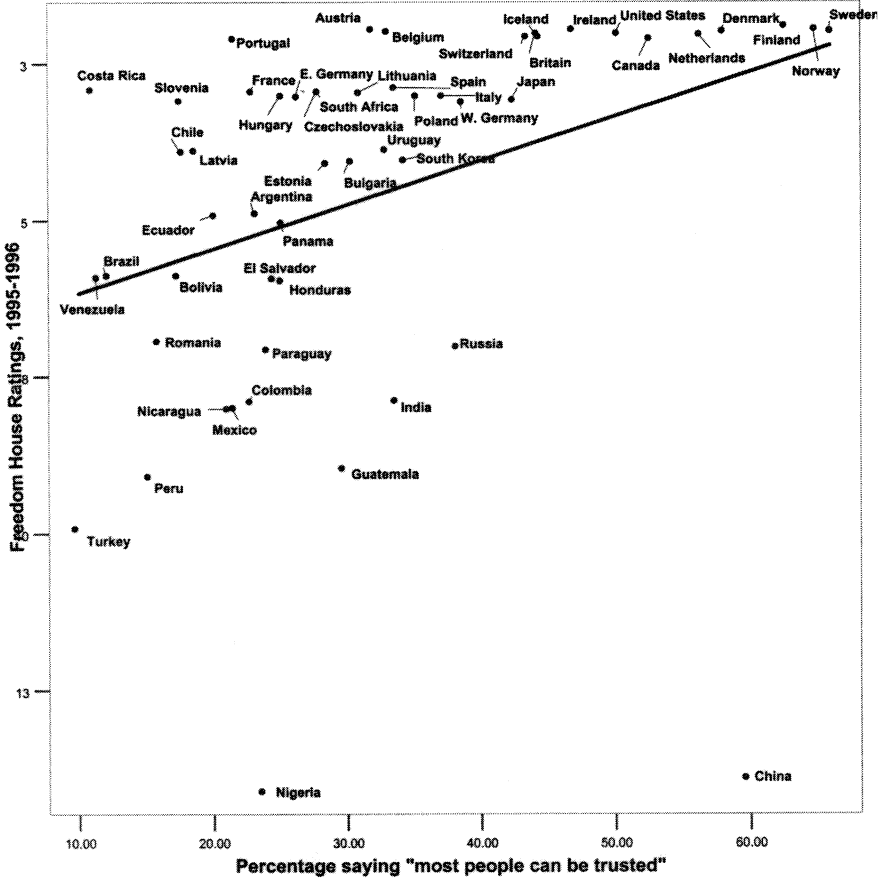
asked in the same way in the Latinobarometer, enabling a direct comparison of the two data bases. The 1996 Latinobarometer involved over 18,000 interviews in seventeen countries. In most countries, the sample was around 1,000 respondents, except in Venezuela, where the sample was 1,500, and in Bolivia and Paraguay, where the samples were somewhat smaller.²¹

Inglehart's dependent variable, years of continuous democracy, has been criticized because the effect (democracy) comes long before the cause (trust). This difficulty has been noted before.²² While Inglehart acknowledges the problem of using survey data from the 1980s and 1990s to infer attitudes from as long as nearly a century ago, he defends his choice of indicators by arguing that "the evidence indicates that these rankings are pretty stable."²³ The problem, of course, is that the attitude data are often very unstable, as his own data show. Inglehart himself shows that, over a thirty-four-year period, interpersonal trust in the United States fell from 58 percent, comparable to contemporary levels in Denmark, to 35 percent, a level that would put it on a par with today's levels of trust in Uruguay, India, South Korea, and Poland.²⁴ The reanalysis performed in this article uses the widely used Freedom House data to measure the level of democracy as a substitute for the years of continuous democracy measure.²⁵ In short, I reanalyze Inglehart's data by adding the seventeen cases from the Latinobarometer and substituting the level of democracy for the duration of democracy.²⁶ The data set now includes fifty-four countries, versus the forty-three employed by Inglehart.²⁷

Inglehart would be pleased with the initial results of this analysis. As Figure 2 shows, they are very close to his own findings, even though the sample is expanded and the dependent variable is a different measure of democracy.²⁸ These findings initially suggest a robustness in Inglehart's conclusions; interpersonal trust shows a positive, statistically significant relationship with level of democracy, using either Inglehart's original set of countries or the expanded data set used here. Thus, the initial conclusion to be drawn from the macro-level analysis produced in Figure 2 is that Inglehart's thesis is supported with the new and expanded data set. Moreover, this new analysis largely resolves the problem created by Inglehart's use of recent trust data to predict substantially earlier democracy data. The new data use trust scores taken at about the same time as the democracy ratings. As a result, while it is still not possible to be certain of the direction of causality, the new data make a much more plausible case that democracy is a function of interpersonal trust.

Or do they? The scatterplot between interpersonal trust and democracy reveals a cluster of cases in the upper right-hand quadrant that seem to be largely if not entirely responsible for the positive association. These cases are the highly advanced industrial societies of northern Europe and North America. These countries not only have high trust scores and high democracy scores, but also share a number of other characteristics, notably their extremely high GNPs. In contrast, many countries with moderate to low trust scores nonetheless have high levels of democracy (for example, Austria, France,

Figure 2 Scatterplot of Interpersonal Trust, 1990–1996, and Level of Democracy in 1996



$r = .35, \text{Sig.} = .01$

Belgium, Portugal, and Costa Rica). Empirical patterns such as these immediately suggest that the reported relationship of trust to democracy may be spurious. If countries can score either high or low on trust and still score high on democracy, trust may be a spurious predictor. In fact, when a single control variable, national per capita income measured in PPP terms for 1995, is introduced, interpersonal trust disappears as a significant predictor of democracy.²⁹ Table 1 shows these regression results.

What does the scatterplot of trust and democracy look like if these northern industrial cases are deleted and the relationship between trust and democracy is reexamined

without them? Figure 3 shows that, not only does the relationship become insignificant, but it also becomes negative: more trust, less democracy. These findings remain unaltered (insignificant and negative) even if China, the obvious outlier, is removed.

Further examination of the scatterplots reveals additional troublesome patterns for Inglehart's thesis. First, at 60 percent, interpersonal trust in China is exceptionally high, exceeded only by Finland (63 percent), Norway (65 percent), and Sweden (66 percent).³⁰ Yet China has had one of the longest lasting authoritarian traditions in the world, as reflected in the Freedom House ratings shown in Figures 2 and 3. Authoritarian, indeed totalitarian, highly centralized governments have ruled China for many centuries. An error in the data base for China might be suspected, but Inglehart, noting the anomaly, refers to a second survey of China that produced similarly high trust levels.³¹ However, even if China is removed from the original trust/democracy scatterplot, the overall relationship uncovered by Inglehart remains unchanged, and (as noted) its presence or absence does not alter the results of the trimmed sample presented above.

Inglehart's more recent analysis, using the Freedom House ratings for 1990 and 1995, also examines levels of democracy. He finds that, when controlled for GNP per capita and other social structure variables, interpersonal trust, as well as support for revolutionary change, have no significant relationship with democracy for 1990.³² Using 1995 data on the level of democracy, he finds that neither these variables nor life satisfaction (which he refers to as "subjective well-being") is significantly related to democracy. Nonetheless, in a 1999 publication Inglehart seems to ignore this very evidence and insists on the importance of trust; he shows a scatterplot very similar to Figure 1 that reports a correlation of .50. He states: "The overall pattern [in the figure] confirms theoretical expectations that have never before been tested against so broad a data base. Levels of interpersonal trust among mass publics are closely linked with a society's level of democracy during the period from 1972 to 1997."³³ While the reanalysis presented here, along with Inglehart's own more recent analysis, appears to damage his thesis that culture causes democracy, Inglehart argues that it does not because "the massive number of new democracies washes out the linkage between culture and democracy."³⁴ But this rationale strongly suggests that Inglehart himself admits that the causal arrows run from democracy to culture, since it apparently takes time for these new democracies to develop the levels of trust that the old democracies have achieved. But it is just as reasonable to suspect that Inglehart's civic culture variables are spurious predictors of democracy, an explanation that can be tested by examining the same data sets at the micro level.

Micro-Level Analysis

The preceding discussion leaves two questions. First, is there a micro-level civic culture syndrome relating trust, opposition to revolutionary change, and life satisfaction?

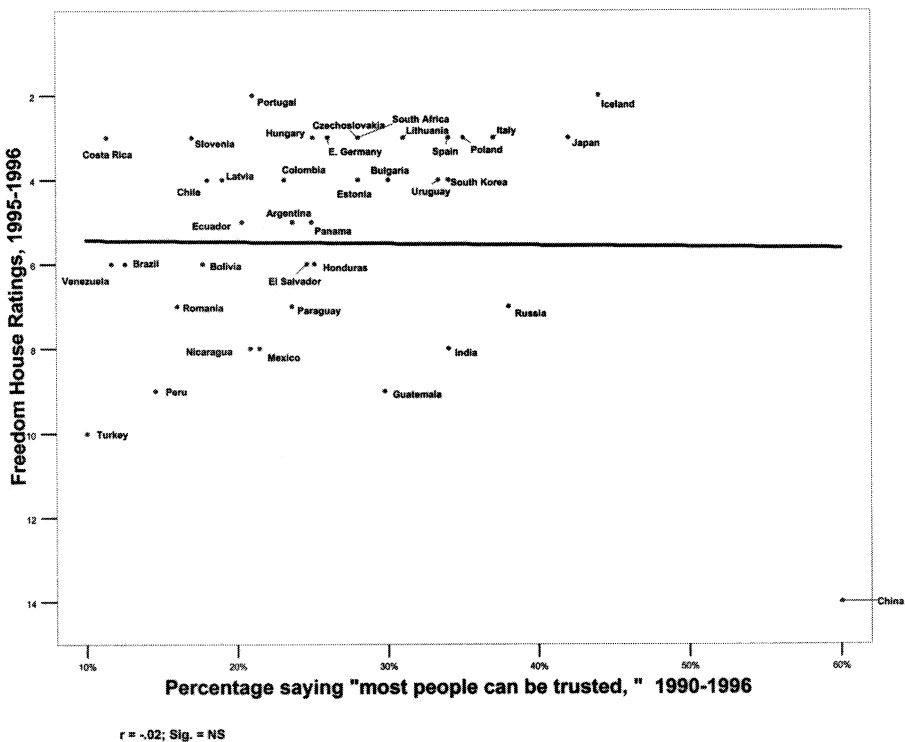
Table 1 OLS Predictors of Level of Democracy

	B	Std. Error	t	Sig.
(Constant)	6.918	.731	8.467	.000
Percent saying "most people can be trusted"	.0202	.026	.765	.448
PPP GNP per capita, 1995	-.0003	.000	-5.603	.000

Adjusted R² = .40, Sig. < .001

Note: Freedom House ratings range from a low of 2 to a high of 14, with 2 indicating most democratic and 14 indicating least democratic. This explains the negative sign for PPP GNP per capita in the equation above.

Figure 3 Scatterplot of Trust and LLevel of Democracy, Trimmed Sample



Second, do individuals reporting higher levels of these civic culture syndrome variables express higher support for democratic norms? To answer these questions, I will undertake a micro-level analysis searching for linkages between civic culture and democracy in three ways. First, I examine the data set that Inglehart used as the basis of his 1988 article on the renaissance of political culture at the micro level for the existence of the civic culture syndrome that he finds at the macro level. Second, to broaden the data set to include countries from the Third World while testing the explicit micro-level linkages between trust and support for democracy, I undertake an analysis, using the Latinobarometer data set, for micro-level attitudinal correlates between the key civic culture variable, interpersonal trust, and a measure of respondents' preference for democratic government. Third, I analyze all three of Inglehart's civic culture syndrome variables, as well as variables measuring explicit preference for democratic principles, using a data set drawn from six Central American countries.

A Reexamination of Inglehart's Data Set The first analysis probes for the existence of the civic culture syndrome using the same data sets employed by Inglehart. If the items that he argues form a syndrome at the macro level (the level of nations) are not found at the micro level (the level of individuals), then one might be skeptical of the claim that a civic culture syndrome has been identified.

To check for the existence of the civic culture syndrome within the data that Inglehart used to draw his initial conclusions, I obtained those data from the University of Michigan Inter-University Consortium.³⁵ The overall findings are summarized in Table 2. The summary is necessary since, with twenty-two countries and three items each covering three time periods, there are nearly 200 individual correlates. The three items in the syndrome, again, are interpersonal trust, life satisfaction, and opposition to revolutionary change. In 1976, the first year from which data were taken, only 53 percent of all the possible associations for the countries in the data set produced statistically significant correlations. By 1981–1983 this proportion dropped to 44 percent, and by 1986, the last year of data before Inglehart announced his discovery of the syndrome, it declined further to 31 percent. Thus, by 1986 over two-thirds of all the possible correlates of the three items that purportedly form the “enduring civic culture syndrome” were found to be insignificantly related. This decline in the weak relationships found in 1976 is not, of course, a function of newly established democracies “washing out” the relationship (as Inglehart claimed in his analysis at the macro level), since the countries in the data set did not change between 1976 and 1986. Even more troubling, in several countries with the longest democratic traditions Inglehart's data provide virtually no evidence for the existence of the syndrome. Of the nine possible significant associations for the United States and Australia, only two were significant, at an average r of .05. In Canada, only one association was found to be significant, also at an r of .05.

The availability of the 1990 World Values survey from the ICPSR enables the computation of a similar set of correlates for that data set.³⁶ Forty-three countries were

Table 2 Number and Mean of Significant Inter-Item Correlations among the Civic Culture Items (Interpersonal Trust, Life Satisfaction, and Opposition to Revolutionary Change), 1976–1986

Country	1976		1981-1983		1986	
	Number sig.	Mean	Number sig.	Mean	Number sig.	Mean
Australia	-	-	2	.05	-	-
Belgium	2	.12	0	.02	1	.07
Canada	-	-	1	.05	-	-
Denmark	1	.06	1	.05	1	.05
France	3	.20	3	.02	1	.06
Germany	2	.13	3	.03	2	.12
Great Britain	1	.07	2	.04	2	.07
Greece	-	-	-	-	1	.03
Iceland	-	-	1	.07	-	-
Ireland	1	.08	1	.05	1	.06
Italy	2	.11	1	.04	2	.08
Japan	-	-	0	.05	-	-
Luxembourg	3	.28	-	-	0	.09
Mexico	-	-	1	.02	-	-
Netherlands	2	.11	2	.02	2	.10
North Ireland	0	-.03	0	-.02	1	-.04
Norway	-	-	3	.02	-	-
Portugal	-	-	-	-	1	.03
South Africa	-	-	2	.07	-	-
Spain	-	-	0	.07	0	.01
Sweden	-	-	0	.01	-	-
United States	-	-	2	.05	-	-
Sig. correlates out of possible total	16/30 =53%		25/57= 44%		15/39= 31%	

Data: 1976--Eurobarometer 6; 1981-83-- World Values Survey; 1986--Eurobarometer 25. Dashes indicate that none of the three items was included for the given country.

included in the 1990 World Values survey, yielding a possible maximum of 129 significant correlations among the three elements of the purported civic culture syndrome. In two countries (Switzerland and Romania), however, no data are reported for the opposition to revolutionary change item, leaving a total possible number of correlations of 127. Of those, only sixty-two, or 48.8 percent, were found to be significant at the .05 level or better, but thirteen of those were in the wrong direction. Only 38.6 percent were significant and in the right direction. Only in Spain, Norway, and Czechoslovakia were there significant associations among all three variables. Once again, there is little or no significant association among these items even in quintessentially democratic cases like Britain and Canada, where only one of the three correlates was significant (and the correlation coefficient was only .10). Furthermore, there seemed to be no discernible pattern whereby the syndrome is more likely to emerge in older democracies than in new ones. Thus, Inglehart’s claim that the new democracies tend to “wash out” the expected association is not supported by this analysis.

These first analyses suggest that there is little evidence of a civic culture syndrome in the data from which Inglehart drew his conclusions. Claiming to find a syndrome at the macro level that is not found at the micro level raises suspicions of spuriousness. The strong associations Inglehart found between the aggregated (largely insignificantly or negatively associated) variables with democracy at the national level therefore rest on very insecure foundations. Once again, political cultures of nations arise from and are measured by attitudes of individuals, according to Inglehart's work, yet there is very little evidence of Inglehart's coherent civic culture syndrome among the variables on which he rests his argument. Other variables may form such a syndrome, of course, but that would be a matter for further investigation.

Micro Patterns: Seventeen Latin American Countries The 1996 Latinobarometer, as already noted, employed the identical interpersonal trust item used by Inglehart. The Latinobarometer also contains an item that seems to be ideal for testing respondents' commitment to democracy. "With which of the following statements do you agree the most? (1) Democracy is preferable to any other form of government; (2) In some circumstances, an authoritarian government could be preferable to a democratic one; or (3) For people like me, a democratic regime or an authoritarian regime makes no difference."³⁷ This variable was coded so that those who prefer democracy over any other form of government were scored 100, those who prefer authoritarianism were scored 0, and those who were indifferent were scored 50.

Table 3 shows that in only 35 percent of the countries in the region (six of the seventeen) is there a statistically significant relationship between interpersonal trust and a preference for democracy. In other words, in two-thirds of the Latin American countries there is no significant relationship between trust and a preference for democracy, and the relationships among those that are significant are very weak. More troubling, the mean trust scores (data not shown) show that in eight countries (Brazil, Costa Rica, Ecuador, Guatemala, Mexico, Nicaragua, Peru, and Venezuela) mean trust scores are higher among those who prefer authoritarian government than those who prefer democracy. In Peru the trust scores are nearly twice as high among those who prefer authoritarianism.

Inglehart also examines the role of Putnam's social capital, measured in terms of civil society participation as a key indicator of a democratic citizenry.³⁸ Such an emphasis makes sense, of course, because participation lies at the heart of nearly all conceptions of democracy and has been the subject of extensive study with survey data.³⁹ Moreover, by moving away from a focus on one attitude, trust, predicting another attitude, preference for democracy, Inglehart's analysis focuses directly on the attitudinal linkage to behavior. Yet an examination of the seventeen samples in the Latinobarometer reveals that in only five—Brazil, Chile, Paraguay, Mexico, and El Salvador—is there a monotonic statistically significant (.05 or better) relationship between interpersonal trust and civil society participation.⁴⁰ Only in Chile and El

Table 3 Interpersonal Trust and Preference for Democracy

Country	r	Sig.
Argentina	.14	< .001
Bolivia	.01	NS
Brazil	.01	NS
Chile	.05	.03
Colombia	.11	< .001
Costa Rica	.01	NS
Ecuador	.03	NS
El Salvador	.07	.04
Guatemala	.03	NS
Honduras	.15	< .001
Mexico	.03	NS
Nicaragua	.01	NS
Panama	.01	NS
Paraguay	.04	NS
Peru	.05	NS
Uruguay	.10	.001
Venezuela	.02	NS
Percent of	35%	

Source: Latinobarometer, 1996.

Salvador, 12 percent of the cases in mainland Latin America, does interpersonal trust significantly predict both support for democracy and community participation. In light of the strong claims made for the centrality of interpersonal trust in the revitalized civic culture thesis, the Latin American data come as a major disappointment.

Micro-Level Analysis: Six Central American Cases Central America presents a particularly good environment for testing Inglehart's thesis because the levels of democracy within the region vary widely, while many other variables are held constant. Despite their many similarities of language, size, location, history, ethnicity, and economy, Central American countries represent wide extremes in levels of democracy.⁴¹ Freedom House ratings for 1988–1989, the last year before the surveys analyzed in this section, were as follows: Costa Rica = 2, Honduras = 5, Guatemala = 6, El Salvador = 6, Nicaragua = 9, Panama = 11 (based on a scale ranging from highest democracy, scored 2, to lowest democracy, scored 14). These six countries thus represent a wide range, in international terms, in the dependent variable, democracy, while controlling for language, colonial background, geography, and other factors. The data are drawn from the University of Pittsburgh Latin American Public Opinion Project. That project, designed to tap the opinion of Central Americans on a wide variety of issues, included a battery of items with which to test Inglehart's thesis. The samples were of a multistage stratified design.⁴²

The first issue is to test the extent to which the three civic culture items form a syndrome of related attitudes. The most obvious way to conduct this test is to examine the interitem correlations among the variables for all six countries in the study. Life satisfaction is coded with a 4 for those “very satisfied,” 3 for those “fairly satisfied,” 2 for those “not very satisfied,” and 1 for those “not at all satisfied.”⁴³ Unlike the World Values and Latinobarometer surveys, which used a dichotomized response pattern, interpersonal trust is coded similarly to the life satisfaction item, with a range from 4 points given to those who believe that most people are “very trustworthy” down to 1 point for those who believe that people are “not at all trustworthy.”⁴⁴ The support for revolutionary change variable, identical to Inglehart’s item, had three options, a score of 3 for those who supported radical change, 2 for those who supported reforms, and 1 for those who opposed change.⁴⁵

As Table 4 shows, the results are sorely disappointing for those seeking support of Inglehart’s thesis. Among the eighteen cross tabulations, only three coefficients are significant, and their magnitude is very low. More important, of the significant correlations, one runs in the wrong direction; in Honduras, high interpersonal trust is correlated with high support for radical change. The syndrome of attitudes that Inglehart argues are related are completely unrelated in four of the six Central American countries. In Honduras and Panama life satisfaction is significantly related to support for revolutionary change in the predicted direction, but in Honduras support for revolutionary change is significantly correlated in the wrong direction with interpersonal trust. These findings provide virtually no support for the thesis that a civic culture syndrome exists as defined by these three variables, not even in Costa Rica, Latin America’s best established democracy.

The second test at the micro level with the Central American data set is to determine the connection between the civic culture items and democracy. Inglehart makes the micro-macro link by showing that countries with the highest levels of civic culture have had the longest experience with democracy, independent of economic development. But

Table 4 Correlates of the Civic Culture Syndrome in Central America

Country	Interpersonal Trust and Life Satisfaction	Interpersonal Trust and Support for Revolutionary Change	Life Satisfaction and Support for Revolutionary Change
Costa Rica	.05	.02	.04
Guatemala	.06	.01	.03
Honduras	.01	.07*	.08*
Nicaragua	.05	.01	.00
El Salvador	.00	.00	-.02
Panama	.00	.07	.09

* = Sig. < .05.

Coefficients are Tau b when the trichotomous support for revolutionary change item is used and Tau c in the other cases.

are interpersonal trust, life satisfaction, and opposition to revolutionary change linked with explicitly democratic attitudes? This question Inglehart leaves unanswered, but these putative links can be explored with the Central American data set.

A basic value vital to a democracy is opposition to the suppression of democratic liberties. The focus here is on three of the most essential civil liberties: the right to demonstrate, the right to hold meetings, and free speech. The interviewers asked the respondents, using a ten-point scale, about their approval of or opposition to government suppression of these basic rights. These items form reliable scales in each of the six countries.⁴⁶

To test Inglehart's thesis, I created an overall scale of support for the repression of civil liberties and used Inglehart's three civic culture items as predictors.⁴⁷ Included as a control is the respondent's level of education, a variable repeatedly shown to be associated positively with political tolerance. The results are presented in Table 5.

If high levels of life satisfaction and interpersonal trust are conducive to establishing and maintaining democratic institutions because they promote support for democratic political rights and civil liberties, there should be a negative relationship between these variables and support for repression of civil liberties. If strong support for revolutionary change is not conducive to democratic institutions because it inhibits support for democratic political rights and civil liberties, there should be a positive relationship between support for revolutionary change and support for repressive action. The results reveal that only seven of the eighteen coefficients on the civic culture variables are statistically significant, and of these seven six are in the wrong direction. Instead of the negative effect predicted by the civic culture theory, life satisfaction has a significant positive effect on support for repression of civil liberties in El Salvador and Nicaragua, and interpersonal trust has a positive effect on support for repressive action in Honduras. Moreover, a study based on a survey of political attitudes in the USSR before its breakup suggests that these findings from Central America might be generalizable.

Table 5 Regression of Support for Repression of Civil Liberties on Civic Culture Syndrome Items plus Education

Country	Life satisfaction	Interpersonal trust	Support for revolutionary change	Education	Adjusted R ²
Costa Rica	-.05 (-1.03)	.03 (.621)	-.092* (-2.031)	-.135** (-2.817)	.03**
Honduras	-.25** (6.34)	.25** (6.35)	.07 (1.77)	-.06 (-1.43)	.14**
El Salvador	.06* (1.98)	-.06 (-1.89)	-.06 (-1.77)	-.14** (-4.14)	.03**
Guatemala	-0.04 (-1.16)	.02 (0.50)	-0.03 (-.6989)	-.06 (-1.54)	.01NS
Nicaragua	.17* (4.31)	.02 (0.68)	-.10** (-2.63)	-.07 (-1.836)	.04**
Panama	.06 (1.26)	-.02 (.51)	-.23** (-5.17)	-.14** (-3.20)	.08**

Numbers in the table are standardized regression coefficients, numbers in parentheses are t-ratios.

*= Sig. < .05 **= Sig. < .001

Among Soviet citizens, life satisfaction was negatively associated with support for political change toward democracy, a finding similar to the results from El Salvador and Nicaragua.⁴⁸ And instead of the positive effect predicted by civic culture theory, support for revolutionary change has a significant negative effect on support for repressive action in Costa Rica, Nicaragua, and Panama. Moreover, in every case except Honduras, support for revolutionary change is consistently negatively associated with support for repressive action, whereas Inglehart's thesis predicts the opposite. Only with regard to life satisfaction in Honduras does the sign of a significant coefficient conform to the expected relationship.

Although the civic culture items did not fare well in predicting a key democratic value, education did better. In three of the six countries education has a significant negative effect on support for repression of civil liberties, a relationship in the expected direction. And even for the nonsignificant education effects the signs of the coefficients are correct. Thus, one of the components of the conventional socioeconomic status explanation of the development of democratic institutions is much more consistently supported in these empirical data than the civic culture argument.

Conclusions

Inglehart has hypothesized on the basis of system-level associations that a syndrome of attitudes that links interpersonal trust, life satisfaction, and opposition to revolutionary change comprises the basis for a civic culture and is linked to democracy. However macro-level data measuring trust and democracy do not seem to fit most cases throughout the world, except for a small group of highly industrialized, advanced democracies in northern Europe and North America. The linear association between interpersonal trust and level of democracy disappears when a control is introduced for per capita income. At the micro level the expected association between the civic culture attitudes and preference for democracy did not emerge, either with the data on which Inglehart based his analyses or with data from Latin America, a world region not well covered in his data set. A more finely grained test using data from six Central American countries with similar histories and cultural traditions but widely differing levels of democracy revealed an almost complete absence of a civic culture syndrome and linkages to explicitly democratic values and behaviors. The findings of a regression analysis seeking linkages between the hypothesized civic culture syndrome and support/opposition to the suppression of civil liberties proved devastating to the thesis. Two-thirds of the eighteen tested relationships were insignificant, and nearly all of the significant relationships flowed in the wrong direction.

There are three possible explanations of these findings. First, the overall theory is wrong; democratic regime time may have nothing (or very little) to do with political culture. Democratic regimes may emerge and be sustained by forces entirely removed

from mass values, such as elite pacts and elite consensus, class structure, and level of economic development.⁴⁹ Second, political culture may be significant, but the variables selected by Inglehart, Putnam, and others may be wrong. James L. Gibson has recently found that in Russia interpersonal trust has little or no relevance to attitudes toward democratic institutions or processes.⁵⁰ Third, the variables may be correct, but their operationalization may be flawed. The operationalization of the interpersonal trust item in particular, a highly North American notion, is especially suspicious, since cross-cultural validation of the measure, developed in 1957, has been virtually absent.⁵¹

These results do not imply that there is no such thing as civic culture or that attitudes are irrelevant to democracy. At a minimum, however, it seems clear that some of the large claims made by Inglehart's studies are overstated and probably based on spurious associations. Future analyses of system-level data ought first to look carefully at individual-level associations before making similar claims. Researchers could profit from advances made in the statistical analysis of hierarchical models through such programs as HLM that are designed to estimate multivariate linear models for data that are nested, with individuals nested within communities, states, and nations.⁵² Such models have helped untangle complex research questions in the field of education, in which individual students are embedded within classrooms, schools, school districts, and counties. They might well help answer questions in the complex linkage of individual political culture to the nature and performance of their local, regional, and national political systems.

NOTES

My thanks to Ariel Armony, Jeff Mondak, and Jorge Gordin for their helpful comments on an earlier draft and to Damaris Canache for assistance in assembling and analyzing the Eurobarometer data sets. Ned Muller receives my deepest gratitude posthumously for work on the initial analysis of the Central America data set.

1. Adam Przeworski and Henry Teune, *The Logic of Comparative Social Inquiry* (New York: Wiley-Interscience, 1970), p. 73.

2. William S. Robinson, "Ecological Correlation and the Behavior of Individuals," *American Sociological Review*, 15 (July 1950), 351–57.

3. Gary King, *A Solution to the Ecological Inference Problem: Reconstructing Individual Behavior from Aggregate Behavior* (Princeton: Princeton University Press, 1997).

4. Darren W. Davis and Christian Davenport, "Assessing the Validity of the Postmaterialism Index," *American Political Science Review*, 93 (September 1999), 649–64; Darren W. Davis, Kathleen M. Dowley, and Brian D. Silver, "Postmaterialism in World Societies: Is It Really a Value Dimension?," *American Journal of Political Science*, 93 (September 1999), 935–62; Brian D. Silver and Kathleen M. Dowley, "Measuring Political Culture in Multiethnic Societies: Reaggregating the World Values Survey," *Comparative Political Studies*, 33 (2000), 517–50; Ronald Inglehart and Paul R. Abramson, "Measuring Postmaterialism," *American Political Science Review*, 93 (September 1999), 665–77.

5. Erwin K. Scheuch, "Theoretical Implications of Comparative Survey Research: Why the Wheel of

Cross-Cultural Methodology Keeps on Being Reinvented,” *International Sociology*, 4 (June 1989), 155. For a very clear explanation, see B. Guy Peters, *Comparative Politics: Theory and Methods* (New York: New York University Press, 1998), pp. 44–45.

6. Ronald Inglehart, “The Renaissance of Political Culture,” *American Political Science Review*, 82 (December 1988), 1203–30; Ronald Inglehart, *Culture Shift in Advanced Industrial Societies* (Princeton: Princeton University Press, 1990); Ronald Inglehart, *Modernization and Postmodernization: Cultural, Economic, and Political Change in 43 Societies* (Princeton: Princeton University Press, 1997); Ronald Inglehart, “Trust, Well-Being and Democracy,” in Mark E. Warren, ed., *Democracy and Trust* (Cambridge: Cambridge University Press, 1999).

7. Robert D. Putnam, *Making Democracy Work: Civic Traditions in Modern Italy* (Princeton: Princeton University Press, 1993).

8. Gabriel A. Almond and Sidney Verba, eds., *The Civic Culture: Political Attitudes and Democracy in Five Nations* (Princeton: Princeton University Press, 1963).

9. Inglehart, “The Renaissance of Political Culture,” p. 1214.

10. *Ibid.*, p. 1215.

11. *Ibid.*, p. 1218.

12. *Ibid.*, p. 1219. This conclusion rests on two questionable assumptions: first, that there is unidirectional causation running from civic culture attitudes to democracy, that is, that democracy has no causal influence on civic culture attitudes, and, second, that civic culture attitudes measured in the early 1980s have been stable since 1900, that is, that their 1980s values remained approximately the same for the whole century. If, instead, reciprocal causation is possible between civic culture and democracy and civic culture attitudes are unlikely to have been stable from 1900 to 1986, the more plausible interpretation of a strong association between civic culture and democracy is that democracy, which is measured prior to civic culture, causes civic culture. Consequently, whether civic culture has a direct and strong effect on democracy remains an open question. See Edward N. Muller and Mitchell A. Seligson, “Civic Culture and Democracy: The Question of the Causal Relationships,” *American Political Science Review*, 88 (September 1994), 635–54; and Inglehart’s reply in Inglehart, *Modernization and Postmodernization*, pp. 197–209.

13. Inglehart, “The Renaissance of Political Culture,” p. 1204.

14. *Ibid.*, p. 1205.

15. Inglehart, “Trust, Well-Being and Democracy,” p. 89; Robert M. Axelrod, *The Evolution of Cooperation* (New York: Basic Books, 1994).

16. Inglehart, “Trust, Well-Being and Democracy.”

17. Benjamin I. Page and Robert Y. Shapiro, *The Rational Public: Fifty Years of Trends in Americans’ Policy Preferences* (Chicago: University of Chicago Press, 1992), p. 14, argue that measurement error and other factors are responsible for instability of individual responses across time, and thus they refute the classic and now often repudiated critique of Converse that the public holds “non-attitudes.” Their research does not, however, deal with the issue of this article, which focuses not on consistency across time but on the consistency of a set of attitudes held by individual respondents at one point in time which forms a civic culture syndrome.

18. This figure is based on Przeworski and Teune, *The Logic of Comparative Social Inquiry*, p. 62.

19. Inglehart, *Modernization and Postmodernization*, p. 173.

20. The data from the 1996 Latinobarometer come from the Inter-American Development Bank (IDB). Researchers may contact the IDB, Office of the Chief Economist, to request copies of the data set. As with the World Values survey, sample designs vary from country to country. In the World Values survey, “the surveys from the low-income countries have larger error margins than those from other countries.” Inglehart, *Modernization and Postmodernization*, pp. 346–47. These errors were produced by oversampling urban and centrally located areas, a problem common to the Latinobarometer as well.

21. In the published summary of the Central American cases, a slight variation of two to three cases was found for Costa Rica, Nicaragua, and Panama from the data set reported on here. The variation is a

result of ambiguous coding of the country location for a total of eight interviews out of the more than 18,000 in the data base. See Programa de las Naciones Unidas para el Desarrollo (PNUD), Desarrollo Humano Sostenible, *Informe Latinobarómetro: Consolidado de Centroamérica*, Proyecto CAM.96.001 (San José: PNUD, 1996). For a general discussion of some of the survey data for Central America see Proyecto Regional de Gobernabilidad para Centroamérica, *El desafío democráticos: Reflexiones de las sociedades centroamericanas ante el resultado del Latinobarómetro 1996* (San José: PNUD, 1997); and Marta Lagos, "Latin America's Smiling Mask," *Journal of Democracy*, 8 (July 1997), 125–38.

22. Muller and Seligson, "Civic Culture and Democracy"; Robert W. Jackman and Ross A. Miller, "A Renaissance of Political Culture?," *American Journal of Political Science*, 40 (August 1996), 632–59.

23. Inglehart, "The Renaissance of Political Culture," p. 1217; Inglehart, *Modernization and Postmodernization*, p. 184.

24. Inglehart, "Trust, Well-Being and Democracy," p. 95.

25. Raymond D. Gastil, *Freedom in the World: Political Rights and Civil Liberties, 1988–1989* (New York: Freedom House, 1989); Freedom House, *Freedom in the World: The Annual Survey of Political Rights and Civil Liberties, 1995–1996* (New York: Freedom House, 1996). One problem noted by Jackman and Miller, "A Renaissance of Political Culture?," is that the definition of democracy changes continually over the very period in which Inglehart was measuring it. A second problem noted by Muller and Seligson, "Civic Culture and Democracy," and Jackman and Miller, "A Renaissance of Political Culture?," pp. 57–58, is that Inglehart's measure of democracy precedes the measure of trust, thus reversing cause and effect. In a few cases the 1996 Freedom House countries do not match the World Values countries. For example, Inglehart reports on Northern Ireland and Ireland, whereas Freedom House only reports on Ireland and excludes Northern Ireland from its report on the United Kingdom. Similarly, East Germany and West Germany are consolidated into "Germany" in the 1996 Freedom House report. I use the same democracy score for both Germanies in the scatterplot and drop Northern Ireland from the 1996 scatterplot. I use the 1996 Freedom House report on Czech Republic, whereas Czechoslovakia was used in the earlier analysis.

26. To provide consistency across the entire Latin American data series, I use the Latinobarometer scores for all cases, substituting their values for the four countries in the World Values data set that cover Latin America (Argentina, Brazil, Chile, and Mexico).

27. The addition of seventeen Latin American countries includes the countries already included by Inglehart in his data set; thus, the total sample N does not increase by the full seventeen.

28. Inglehart's data set was collected at a time of transition in the former Soviet Union. His analysis includes data points for "Moscow" and "Russia." It also includes a data point for Belarus. To avoid possible double counting of cases, I use only the data point for Russia.

29. World Bank, *World Development Report, 1997* (Washington, D.C.: Oxford University Press, 1997), pp. 214–25. PPP are "purchasing power parity estimates" of GNP per capita and are also used by Inglehart, "Trust, Well-Being and Democracy," p. 91, rather than the standard GNP measures. GNP is calculated based on exchange rates, which are often manipulated and not reflective of standards of living in many countries. PPP estimates correct for this bias by examining the domestic purchasing power of local currency.

30. The scatterplot in Inglehart, *Modernization and Postmodernization*, p. 174, places trust in China slightly above 50 percent rather than the 60 percent shown in Appendix A2. In note 2, p. 173, Inglehart explains that a second survey was undertaken in China in 1993 to help verify the high trust scores uncovered in the 1990 World Values Survey. The scatterplot shown by Inglehart "reflects the combined results" of the two surveys, presumably some sort of average, but since the 1993 results are not given in the text, I rely here exclusively upon the actual data published in the appendix.

31. *Ibid.*, p. 173, n. 2.

32. *Ibid.*, pp. 194–97.

33. Inglehart, "Trust, Well-Being and Democracy," pp. 101–4.

34. Inglehart, *Modernization and Postmodernization*, p. 197.

35. I wish to thank Ms. Damarys Canache for searching through the Michigan data archives for these data sets. An early surprise I encountered when examining the data was that the three items on which the syndrome thesis was built do not normally appear together in the same questionnaire. Rather, pairs of items are found in different surveys at different times. How can a syndrome of three variables be claimed to exist when the variables that are said to comprise it are not found in the same data sets? A similar problem was encountered by Kenneth Newton, "Social and Political Trust in Established Democracies," in Pippa Norris, ed., *Critical Citizens: Global Support for Democratic Governance* (Oxford: Oxford University Press, 1999), pp. 179–80, in his study of trust using the World Values data base.

36. The 1990 World Values Survey contains a weight variable (V376), which according to Inglehart, *Modernization and Postmodernization*, p. 430, is supposed to correct for "various features of sample in given countries to make the samples replicate the national population parameters more closely." In addition, the weight factor gives greater weight to the more populous countries than to the less populous ones, so that pooled analyses (which are often convenient) more closely approximate global reality. Unfortunately, while the intracountry corrections may have had a beneficial effect on the representativeness of some of the samples, the intercountry corrections produced sample sizes that seriously distorted the effort to find significant associations. For example, the North Ireland weighted sample shrank to an N of 79, thereby making it less likely, *ceteris paribus*, that significant correlations would be found. This correction would have prejudiced this analysis against Inglehart's approach. Even unweighted, however, no significant associations were found in the case of Northern Ireland. It is worth noting that the intercountry weighting scheme does not seem to correct in an appropriate manner the variation in country population size. The weighted sample, for example, gives China a total N of 1,323, versus the weighted N of the U.S. of 2,010. Given the vastly larger population size of China, its weighted sample should have been much larger rather than smaller than that of the United States. Distortions of this nature appear throughout the weighted 1990 data set.

37. For an analysis of the reliability and validity of this item, see Mitchell A. Seligson, "Costa Rican Exceptionalism: Why the 'Ticos' Are Different," in Rodric Ai Camp, ed., *Citizen Views of Democracy in Latin America* (Pittsburgh: University of Pittsburgh Press, 2001).

38. Inglehart, *Modernization and Postmodernization*, pp. 204–5; Putnam, *Making Democracy Work*.

39. Bob Edwards and Michael W. Foley, eds., "Beyond Tocqueville: Civil Society and Social Capital in Comparative Perspective," *American Behavioral Scientist*, 42 (1998, special issue); Jeffrey J. Mondak, ed., "Psychological Approaches to Social Capital," *Political Psychology*, 19 (September 1998).

40. The question reads: "With what frequency do you work for an issue that affects you or your community?"

41. There are numerous similarities among the countries of Central America. They are all relatively poor, small, and predominantly Catholic, and they share common borders. During their colonial period all but Panama formed part of the Kingdom of Guatemala, part of the Viceroyalty of New Spain (Mexico). After independence (1823–1838) all but Panama formed part of the federated, five province Central American Republic. Panama was part of Colombia until it declared its own independence in the context of the drive to create the Panama Canal. The five northern countries in the region have long specialized in agro-export commodity production. They joined to form the Central American Common Market (CACM) in the early 1960s, which spurred rapid economic growth and some industrialization. Panama held associate status within the CACM and has expressed strong interest in forming part of the recently emerging Central American Economic Community modeled on the European Community experience. Victor Bulmer-Thomas, Rodolfo Certas, María Eugenia Gallardo, and Mitchell A. Seligson, *Economic Integration in Central America: A Report to the European Commission* (Miami: North-South Center, 1992).

42. Sample details can be found in Mitchell A. Seligson, Annabelle Conroy, Ricardo Macías Córdova, Orlando Pérez, and Andrew Stein, "Who Votes in Central America? A Comparative Analysis," in Mitchell

A. Seligson and John A. Booth, eds., *Elections and Democracy in Central America, Revisited* (Chapel Hill: University of North Carolina Press, 1995). In each of these countries, the sample areas covered between a quarter and a third of the national populations. Costa Rica was established as the country for the pilot test of the survey items. Its sample was gathered in fall 1990. The surveys in the other five countries were then carried out during the summer of 1991 and the winter of 1991–92. The sample sizes for each country are as follows: Guatemala, N = 904; El Salvador, N = 910; Honduras, N = 566; Nicaragua, N = 704; Costa Rica, N = 597; Panama, N = 500. All surveys were probability in design, using national census maps to select the PSUs, with the “next birthday” system used for selecting the respondent within the home. In Nicaragua, as the census was very out of date, the survey used the voting precinct (*Junta Receptora de Voto*) as the PSU. The surveys were carried out in collaboration with local research organizations (see *ibid.* for details).

43. This item read: “Generally speaking, how satisfied are you with your life?” This item followed two others in which the respondent’s satisfaction with his/her housing and income were measured on the same four point scale.

44. The trust item read: “Speaking generally about people, would you say that people in general are very trustworthy, fairly trustworthy, a little trustworthy or not at all trustworthy?”

45. The item read: “Which of the following best describes your opinion. The entire way our society is organized must be radically changed by revolutionary action. Our society must be gradually improved by reforms. Our society must be valiantly defended against all revolutionary movements.” Inglehart’s coding of this item gives the last choice, opposition to revolutionary action, a 3. In so doing, this item ought to have a positive correlation with the other two civic culture items. However, in presenting the item in his LISREL diagram, Inglehart, “The Renaissance of Political Culture,” p. 1218, defines the variable as “opposition to revolutionary change” but omits the negative sign before the coefficient that appears in the text. *Ibid.*, p. 1215. Also, in the wording of the last of the three choices, Inglehart refers to “subversive forces” rather than “revolutionary forces.” Since the item seeks to measure support for revolutionary change, I made the third choice parallel to the first, so that both extremes referred to the same group, revolutionaries.

46. The 1990 survey of Costa Rica, however, omitted the opposition to the suppression of democratic liberties items. In 1995 an urban sample of the same design used in 1990 was gathered in Costa Rica which did include these items, as well as all of the others under analysis here. For that reason, the 1995 sample is substituted for the 1990 sample in the table that follows.

47. The scale summed up the four items and divided by four in order to provide a scale that ranged from a low of 1 to a high of 10.

48. Ada W. Finifter and Ellen Mickiewicz, “Redefining the Political System of the USSR: Mass Support for Political Change,” *American Political Science Review*, 86 (December 1992), 868.

49. John Higley and Richard Gunther, eds., *Elite and Democratic Consolidation in Latin America and Southern Europe* (Cambridge: Cambridge University Press, 1992); John Peeler, *Building Democracy in Latin America* (Boulder: Lynne Rienner Publishers, 1998); Barrington Moore, Jr., *Social Origins of Dictatorship and Democracy* (Boston: Beacon Press, 1996); Dietrich Rueschemeyer, Evelyn Huber Stephens, and John D. Stephens, *Capitalist Development and Democracy* (Cambridge: Polity Press, 1992); Seymour Martin Lipset, “Social Requisites of Democracy: Economic Development and Political Legitimacy,” *American Political Science Review*, 53 (March 1959).

50. James L. Gibson, “Social Networks, Civil Society, and the Prospects for Consolidating Russia’s Democratic Transition,” *American Journal of Political Science*, 45 (January 2001), 51–69.

51. But see Mitchell A. Seligson and Lucio Renno, “On the Measurement of Interpersonal Trust,” *Dados? Revista de Ciências Sociais* (Brazil), 43 (2000), 783–803.

52. Stephen Raudenbush, Anthony Bryk, Yuk Fai Cheon, and Richard Congdon, *HLM5: Hierarchical Linear and Nonlinear Modeling* (Lincolnwood: Scientific Software International, 2000).