

Economic Integration: An Empirical Assessment

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Abstract

Recent theoretical work suggests that increased openness to international trade, democratization, and regional standards of living pose threats to internal market integration. These theories are assessed using a statistical model of commodity trade, which we use to measure the extent of integration between regional commodity markets within Russia. Monthly time-series data on regional commodity prices spanning 1995 through 1999 indicate substantial fluctuations in integration over this period: an initial period of widespread integration gradually gave way to a period of disconnectedness in 1995 through 1997, which seems to have subsided by mid-1998. These fluctuations exhibit strong negative relationships with national and regional measures of international trade and democratization; but strong positive relationships with national and regional measures of standards of living. They also exhibit negative relationships with inflation and inflation volatility.

Inspired by the breakup of the Soviet Empire, Czechoslovakia and Yugoslavia, as well as the emergence of the European Union, a series of recent theoretical analyses have provided characterizations of the role of trade openness, democratization, and regional standards of living in influencing political and economic integration within a country or neighboring regions. We analyze these theories using data from the Russian Federation, whose struggles to obtain national unity both politically and economically make it a particularly relevant testing ground. Our analysis begins with a characterization of economic integration between regions within Russia. Based on an analysis of regional commodity price data spanning 1995–1999, we find substantial fluctuations in integration: an initial period of widespread integration gradually gave way to a period of disconnectedness in 1995 through 1997, which seems to have subsided by mid-1998. Given this characterization, we then evaluate the relationship observed between a set of economic variables and our measured pattern of market integration. We find fluctuations in integration exhibit strong negative relationships with national and regional measures of international trade and democratization; but strong positive relationships with national and regional measures of standards of living. They also exhibit negative relationships with inflation and inflation volatility.

Regarding international trade and democratization, Alesina, Spoloare and Wacziarg (2000) and Casella (2001) construct models in which increased opportunities for international trade threaten internal integration by prompting regions within a country to substitute away from trade relationships with domestic partners towards relationships with international partners that offer broader trading opportunities. Alesina and Spoloare (1997) construct a model in which the democratization of a centrally controlled nation threatens internal integration by giving regions enhanced freedom to form trading and political coalitions with other regions outside the original country. Finally, Casella and Feinstein (2001)

construct a model that highlights costs and benefits of enhanced economic and political integration whose relative strengths vary with regional standards of living. By broadening the set of domestic regional partners, enhanced integration reduces costs of domestic trade and domestically provided public goods. However, enhanced integration also reduces regional political autonomy, which may force a region to accept an inferior mix of public goods relative to its specific tastes and needs. When economic conditions are relatively poor, political autonomy is a luxury regions may be unwilling or unable to afford, thus relatively poor regions should show a higher propensity towards economic integration.

The Russian Federation provides a unique opportunity for testing these theories: during its transition to a market economy, Russia has opened itself to world markets, democratized, and experienced marked fluctuations and regional disparities in living standards. Regarding trade openness, international trade was centrally controlled and severely limited in the Soviet Union. Since the formation of the Russian Federation, international trade has been liberalized in general, and decisions regarding international-trade participation have been delegated in large part to regional governments.¹ As a result, there is now substantial regional variation in international-trade participation within Russia: e.g., the capital cities of Moscow and St. Petersburg are major centers of international commerce, while the Mordovian, Adygey and Tyva Republics are almost completely isolated from world markets. Regarding democratization, Russia is a much more democratic country than was the Soviet Union, in which the voting process was a formality used primarily to rubber stamp political appointments to local parliaments (soviets). In Russia, voting has become an important institution in which, e.g., citizens have had the opportunity to express support for a continuation of market reforms or for a return to an administered economy. Voting has also allowed citizens to express confidence or lack thereof in their federal, regional and local leaders.² Regarding standards of living, during 1994-95 almost a quarter of the population lived under the official poverty line. The situation improved slightly during 1996-97, when roughly 21 percent of the population lived under the poverty line. It then gradually worsened, peaking out at roughly 33 percent in 1999. Moreover, regional variation in these measures is staggering: more than 75 percent of the populations of Chita, Kalmykia and Tyva lived under the poverty line in 1999, while less than 25 percent were impoverished in Moscow and Samara.

Russia is an additionally attractive testing ground because the federal government has struggled to secure political and economic integration throughout the Federation since its inception. Immediately following the demise of the Soviet Union in August 1991, many regions threatened to secede; others simply ignored federal laws. By 1997 it was clear that the secessionist crisis had subsided: excepting

¹ As a notable exception, crude-oil exports have remained under federal control in the Russian Federation.

² For example, in a 1993 referendum citizens were allowed to make a vote expressing their confidence or lack thereof in then-President Yeltsin, and his domestic economic policies.

Chechnya, all the regions agreed to remain within the Federation (Treisman 1999). Nevertheless, Russian federalism remains problematic: many regions have withheld mandatory taxes to the government, and many others have ignored federal laws guaranteeing the free mobility of goods between regions. Moreover, since the initiation of the economic-reform process in 1992, regions that were slow to liberalize prices and eliminate goods subsidies have used regional rationing cards and erected export controls at borders in an effort to limit the subsidization of non-residential consumption. Most regions had liberalized consumer prices by 1997, but roughly 30 percent then erected some form of border control after the financial crisis in the summer of 1998 (Serova, 1998). The extent to which these border controls persist is unclear.

As noted, we use a statistical model of commodity trade to measure the extent of integration between regional commodity markets within Russia. The model, developed by Engel and Rogers (1996) and Parsley and Wei (1996), is designed to evaluate whether the behavior of prices in a particular region vis-à-vis the region's potential trading partners is consistent with the behavior one would expect to observe if the region in question was actually open to regional trade. We use the model to produce a yes/no signal regarding openness to domestic trade for 74 of Russia's now 88 regions. We produce five such signals for each region; each is based on monthly time-series behavior of a commodity price index observed over 12-month intervals spanning 1995-1999. Aggregating across regions, we find that market integration has fluctuated substantially over this period: an initial period of widespread integration gradually gave way to a period of disintegration in 1995 through 1997, which seems to have subsided by mid-1998.

Having characterized regional patterns of integration, we rely on guidance from the theoretical structures discussed above in seeking to explain them empirically. We do this using a statistical framework in which regions are modeled as individual economic entities that base decisions regarding participation in trade with potential domestic partners in a given year on a collection of region-specific and national-level variables (described in detail in Section II). The national-level variables change from year to year: these consist of measures of international-trade participation, poverty, inflation and inflation volatility. (The latter measures are included to account for potential detriments to internal integration arising from price distortions.) The region-specific variables are of two types: time-varying and fixed. The time-varying measures consist of measures of poverty, transport costs (included to quantify a potential detriment to domestic trade) and strike activity (included to capture potential links between domestic trade and regional discontent). The fixed variables consist of a regional measure of openness to international trade (since a yearly measure is unavailable) and democratization.

We find a strong negative relationship between our measure of market integration and the national measure of openness to international trade, lending empirical support to the theoretical

predictions of Alesina, Spoloare and Wacziarg (2000) and Casella (2001). Specifically, using a probit model, we find that a one-standard-deviation increase in the openness-to-trade measure corresponds with a 9.3% decrease in the probability that a region is integrated in a particular period. (We also find a negative relationship with our regional measure of openness, but it is statistically insignificant.) As predicted by Alesina and Spoloare (1997), we also find that democratization exhibits a negative correspondence with integration: a one-standard-deviation increase in our measure of democratization corresponds with a 7.2% decrease in the probability of regional integration. In contrast, Casella and Feinstein's (2001) prediction that relatively poor regions are more likely to be integrated is not supported in this analysis: one-standard-deviation reductions in the national and regional measures of poverty are associated with 10.9% and 6.3% *increases* in the probability of regional integration. Regarding the additional variables we consider, the national measures of inflation and inflation volatility exhibit a mild negative correspondence with regional integration, while the regional measures of transport costs and strikes are statistically insignificant. In sum, it does appear that regions within Russia actively substituted between domestic and international trading partners in the latter half of the 1990s. This behavior suggests that in formulating trade policy, the federal government of Russia should guard against potential negative implications for domestic-trade activity.

I. Measuring Integration

Within integrated markets, arbitrageurs and traders can move goods from regions in which prices are low to regions in which they are high so long as transport costs are not prohibitive. Thus if transport costs are increasing in distance, so too will be regional price differentials. More formally, let $Q_{ij}(t)$ denote the percentage price differential for some tradable good sold in regions i and j at some date t : $Q_{ij}(t) = \text{abs}(\log(P_i(t)/P_j(t)))$. Also, let d_{ij} represent the distance separating regions i and j , where inter-regional transport costs are increasing in d_{ij} . Lacking barriers to inter-regional trade, arbitrage opportunities exist at some date t when $Q_{ij}(t)$ is greater than or equal to transport costs. When $Q_{ij}(t)$ is less than transport costs, moving the good between these two regions is not profitable, and inter-regional trade does not occur.

To quantify the relationship between distance and transport costs, we follow Engel and Rogers (1996) in employing Krugman's (1991) transport cost model, in which $1 - 1/(1 + d_{ij})$ is the share of a good that depreciates when it is moved between regions i and j . Arbitrageurs can profitably buy goods in region j and resell these goods in region i when $P_i / (1 + d_{ij}) \geq P_j$; the same arbitrageurs can profitably buy goods in region i and resell in region j when $P_j / (1 + d_{ij}) \geq P_i$. Given an integrated internal market, there will be trade between regions i and j when the relative price (P_i / P_j) fluctuates outside the band $[1/(1 + d_{ij}), (1 + d_{ij})]$. This band is increasing in d_{ij} , thus a testable implication of this model is that the variance of Q_{ij} is increasing in inter-regional distance when internal markets within a country are integrated.

We measure movements in inter-regional price dispersion using a monthly price index that measures the cost of a basket of 25 basic food goods. The index spans January 1995 through December 1999, and was compiled by the Russian statistical agency Goskomstat (unpublished). The index includes observations from 74 Russian cities: Moscow, St. Petersburg, and capital cities in 72 additional regions. (There are 89 regions in Russia; the data we lack are from the war-torn regions in the Caucasus, and from many of the autonomous okrugs and krais.)

Let $t = 1, 2, \dots, M$ denote a particular month and year in which the price index is computed, and let $\sigma_{ij}(s)$ denote the standard deviation of $Q_{ij}(t)$ calculated over the twelve-month sub-period indexed by s . To measure movements in price dispersion, we calculate $\sigma_{ij}(s)$ for every possible (i,j) combination such that $i \neq j$, and for every possible twelve-month sub-period in the time period spanned by our data (we also considered shorter and longer sub-periods and obtained similar results). Our sample includes 74 regions, so there are $N = (74*73)/2 = 2,701$ (i,j) combinations for each time sub-period; and there are 72 months spanned by our price index, so there are 61 possible twelve-month sub-periods.

To measure market integration for region i in sub-period s , we use OLS to estimate

$$(1) \quad \sigma_{ij}(s) = \alpha_i(s) + \beta_i(s)\log(d_{ij}) + u_{ij}(s), \quad i \neq j,$$

where $\alpha_{ij}(s)$ is the estimated intercept, $\beta_i(s)$ is the coefficient for log distance from region i to all other regions, and $u_{ij}(s)$ is an error term. Since inter-regional price volatility in integrated economies should be increasing in log distance, we deem region i to be integrated during sub-period s when $\beta_i(s)$ is estimated as positive and statistically significant.³ We define significance at the 10-percent level in the results reported below; the patterns identified in this manner are robust to alternative choices. Standard errors used to evaluate significance throughout the paper are heteroscedasticity consistent (White, 1980).⁴

Figure 1 plots the percentage of regions deemed to be integrated in each sub-period. The initial plotted value indicates that 76 percent of the regions in our sample were deemed to be integrated over the period January 1995 – December 1995; the second value spans the period February 1995 – January 1996; etc. The percentage of integrated regions fell from roughly 75 to 50 percent between January 1995 and June 1996; it then climbed steeply until March 1997, where it exceeded 80 percent. The percentage then

³ This test is used by Parsley and Wei (1996) to analyze market integration in the U.S. Their finding that $\sigma_{ij}(s)$ increases systematically with distance serves as a useful benchmark in evaluating market integration in Russia.

⁴ A potential problem with this method of measuring integration is that a region may fail to appear integrated not because it chose to be this way, but because a sufficiently large proportion of its neighbors did. To explore this possibility we considered an alternative procedure that involves two steps. The first step is as explained above. In the second step, we re-estimated (1) for each region i by measuring its price volatility vis-à-vis only those regions deemed to be integrated in the first step. Use of this alternative procedure had a minor impact on the shares reported here.

declined to a second trough of approximately 75 percent through July 1997, and then gradually rose to over 90 percent through the remainder of the sample.

These results portray an optimistic picture of Russia: notably, the internal market has been highly integrated since 1998. Nevertheless, aspects of this integration trajectory are puzzling at first glance. During 1996-97, the Russian federal government had successfully stabilized the ruble, and by 1997 the sustained decrease of output in Russia had ceased. Nevertheless, market integration clearly deteriorated over this period. In contrast, real income fell and inflation spiked following the financial crisis in the summer of 1998, yet integration improved throughout 1998, and this improvement was sustained through 1999. In the next section, we characterize the influence of international trade, democratization, etc. in accounting for regional integration patterns.

II. Accounting for Integration

As noted, recent theoretical work emphasizes the potential influence of openness to international trade, democratization and standards of living on the integration of domestic markets. We measure openness to international trade at both the national and regional level. At the national level, this is done using annual data on the volume of trade conducted outside the Commonwealth of Independent States, measured as a percentage of GDP (source: Stockholm Institute for Transition Economics – SITE). Comparable yearly data at the regional level exist only for 1997 and 1998. The correlation between these measures is 0.93, thus we hypothesize that they offer a reasonable characterization of regional openness throughout our sample period, and simply average them to obtain a fixed regional measure of openness (source: Goskomstat 2000a,b). As a regional measure of democratization, we use the percentage of the popular vote cast in support of Yeltsin’s social and economic policies in the referendum of April 1993 (source: Clem and Craumer, 1993). These policies included price liberalization, privatization, and land reforms.⁵ Formidable opponents of these policies, including the Russian Communist Party, the Agrarian Party of Russia, and the ultra-nationalist Liberal Democratic Party of Russia, stood for a return to an administered economy, and the empowerment of a centrist state that limited civil and state rights. Thus in our view this pattern of voting serves as a reasonable proxy for regional patterns of democratization. We measure standards of living using national and regional data on the share of the population with incomes below the official poverty level. Both measures are available on an annual basis throughout the sample period (source: Goskomstat 2000a,b).

⁵ The referendum included a vote of confidence in then President Yeltsin, and also allowed voters to choose whether there should be early elections for the President and the federal legislature, and was set up to resolve a bitter struggle between Yeltsin and the federal legislature (Clem and Craumer, 1993).

In addition to these variables we control for annual inflation and inflation volatility. These measures are computed using monthly CPI data (source: SITE 2000). Our measure of annual inflation is the average monthly inflation rate, and inflation volatility is the standard deviation of the monthly rate. We also control for the annual inflation rate of freight transport costs observed for each year in each region, and for annual regional strike activity, measured as lost work days per thousand workers (sources: Goskomstat 2000a,b).

The mechanical structure of our empirical model is as follows. Since our explanatory variables are generally available only on a yearly basis, our dependent variable – regional market integration – is measured annually as well. This is done by evaluating the statistical significance of the distance coefficient $\beta_i(s)$ calculated for each region over the five twelve-month sub-periods January-December included in our data set. If $\beta_i(s)$ is estimated as statistically significant at the 10-percent level over the 1995 January-December sub-period, we assign the value of one to the 1995 entry for region i ; otherwise we assign the value of zero.⁶ So our integration measure consists of 74 zeros or ones for 1995, 1996, ..., 1999. Hereafter, we denote our integration measure by the 370x1 vector y , the measure calculated for sub-period s by the 74x1 vector $y(s)$, and region i 's entry for sub-period s by the single value $y_i(s)$.

Regarding the explanatory variables, we have five annual observations on the four national-level variables (inflation, inflation volatility, aggregate poverty, and aggregate international trade); two region-specific variables that are fixed over time (regional openness and the 1993 reformist-voting pattern); and three region-specific variables that vary over time (regional poverty, transport-cost inflation, and strike activity). Let the national-level variables be contained in the 370x4 matrix X_N , which consists of five 74x4 sub-matrices $X_N(s)$, $s = 1995, 1996, \dots, 1999$. Each column of $X_N(s)$ contains a set of 74 identical observations on a national-level variable observed in year s . Let the fixed region-specific variables be contained in the 370x2 matrix X_{RF} , which consists of five identical 74x4 sub-matrices $X_{RF}(s)$ (i.e., $X_{RF}(1995) = X_{RF}(1996) = \dots = X_{RF}(1999)$). Row i of $X_{RF}(s)$ contains the measures of openness and voting observed for region i . Let the region-specific variables that vary over time be contained in the 370x3 matrix X_{RV} , which consists of five 74x3 sub-matrices $X_{RV}(s)$, whose i th row contains period- s observations on region i 's poverty level, transport costs and strike activity. Finally, let X denote the entire collection of explanatory variables obtained by vertically concatenating X_N , X_{RF} , X_{RV} and a vector of ones, and $X_i(s)$ denote the row vector containing the explanatory variables observed in region i in year s .

We model the probability that region i is deemed to be integrated in year s – $\text{prob}(y_i(s) = 1)$ – using a standard probit model:

⁶ As noted, we also experimented with alternative significance levels (e.g., 5-, 15- and 20-percent levels) in defining market integration, and obtained results that closely mirror those presented below.

$$(2) \quad \text{prob}(y_i(s) = 1) = \int_{-\infty}^{X_i(s)B} \mathbf{f}(t) dt = \Phi(X_i(s)B),$$

where $\Phi(\cdot)$ denotes the c.d.f. of the standard normal distribution (use of a logit model yields similar results). The parameter vector B is estimated via maximum likelihood using GAUSS.

Before discussing model estimates, some notes regarding the issue of simultaneity are in order. In our view, the explanatory variables fall into three classes: those for which simultaneity is clearly an issue; those for which simultaneity is unclear *a priori*; and those that are exogenous. The variables we take to be clearly exogenous are inflation and inflation volatility; transport-cost inflation; and the 1993 reformist voting pattern. The variables with the clearest potential for simultaneity include the national and regional poverty measures; and the regional incidence of strikes. For these variables, we use one-year lagged values as instruments. Finally, simultaneity is less clear for the aggregate international trade and regional openness measures. For example, under the theoretical constructs of Alesina, Spolaore, and Wacziarg (2000) and Casella (2001), participation in internal markets responds negatively to exogenous changes in international-trade participation. Alternatively, it could be that participation rates in internal and international markets respond simultaneously to exogenous changes in other variables. Given our uncertainty, we initially estimated B using contemporaneous values of the aggregate international-trade measure, and then re-estimated B using lagged values. (Since the regional openness measure is fixed we could not lag this variable; however, it turns out to be statistically and quantitatively insignificant, and dropping it altogether has little impact on our results.) Qualitatively, our results are robust to the use of either measure. Given this, and our interest in evaluating the theoretical predictions of Alesina et al. and Casella, we report the results obtained using the contemporaneous international-trade measure; these are given in Table 1.

Three sets of results are reported in Table 1. The first set was obtained using each of the explanatory variables. The second set was obtained by excluding inflation volatility as an explanatory variable; and the third set was obtained by including inflation volatility, but excluding inflation as an explanatory variable. This was done because the two measures behave similarly, and seem to capture similar effects; we dropped them sequentially in the second and third sets of estimates to assess their influence in isolation. When inflation and inflation volatility are included as explanatory variables, their estimated coefficients are each negative, but quantitatively and statistically insignificant. We assess quantitative significance by calculating the impact on $\text{prob}(y_i(s) = 1)$ of a one-standard-deviation increase in the variable in question; the impacts calculated for inflation and inflation volatility are -3.9 and -2.3 percent in this case. When inflation volatility is excluded, the coefficient on inflation increases by nearly 40 percent and becomes statistically significant at the 10-percent level; when inflation is excluded, the

coefficient on inflation volatility more than doubles, but remains statistically insignificant. Overall then, the behavior of inflation appears to have had a mild negative influence on market integration.

In contrast, the aggregate and regional poverty measures exhibit strong negative relationships with integration, as do the aggregate trade measure and regional pattern of reformist voting observed in 1993 (identified in Table 1 as Democratization). The coefficients on each of these four variables are negative and statistically significant in all three sets of estimates. Regarding quantitative significance, the impact of a one-standard-deviation in the aggregate poverty measures is just over –10 percent in all three regressions, and approximately –6 percent in all three regressions for the regional poverty measure. Corresponding figures for aggregate international trade and regional voting patterns are approximately –9 and –7 percent in all three sets of estimates. The regional measure of openness to international trade also has a negative relationship with integration, but this relationship is weak: its estimated coefficients are insignificant both quantitatively and statistically in all three sets of estimates.

Finally, the regional measures of transport-cost inflation and strike activity exhibit surprising positive relationships with integration. However, while their quantitative impacts are nontrivial (averaging approximately 5 percent across estimates), their coefficients are estimated as statistically insignificant in all three sets of estimates.

III. Conclusion

Alesina, Spoloare and Wacziarg (2000) and Casella (2001) have raised the theoretical possibility that increased opportunities for international trade may pose a threat to domestic-trade activity by prompting regions within a country to substitute away from trade relationships with domestic partners towards relationships with international partners that offer broader trading opportunities. We have used a characterization of regional patterns of market integration in Russia to assess this possibility empirically, and obtained clear empirical support. We also observed a relatively low propensity towards integration among regions with relatively strong preferences for economic reforms (quantified using voting patterns observed in the referendum of April 1993). Interpreting these voting patterns as a proxy for regional democratization, this finding is consistent with the possibility raised by Alesina and Spoloare (1997) that democratization poses a potential threaten to internal integration by giving regions enhanced freedom to form trading and political coalitions with other regions outside the original country. Finally, we observed strong negative relationships between integration and regional and national measures of poverty, running counter to the possibility raised by Casella and Feinstein (2001) that enhanced standards of living may pose a threat to internal integration by heightening the attractiveness and affordability of regional autonomy.

Regions within Russia thus do appear to have actively substituted between domestic and international trading partners in the latter half of the 1990s. Given this behavior, and their clear interest in preserving political and economic ties within the Federation, it seems crucial that Russia's federal government pursue the formulation of international and domestic trade policy jointly. In particular, if Russia continues to pursue international-trade liberalization, they ought to augment this pursuit with measures intended to strengthen domestic-trade activity as well.

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Table 1 – Probit Estimates

Variable	Coefficient	Standard Error	t statistic	p value	Quantitative Significance
Constant	15.027	2.598	5.780	0.000	0.0%
Inflation	-0.554	0.617	-0.900	0.369	-3.9%
Inflation Volatility	-0.236	0.443	-0.530	0.594	-2.3%
National Poverty	-0.222	0.053	-4.220	0.000	-10.9%
National Openness	-2.642	0.725	-3.640	0.000	-9.3%
Regional Poverty	-0.021	0.008	-2.540	0.011	-6.3%
Transport Costs	0.001	0.002	0.820	0.410	4.0%
Strikes	0.002	0.002	1.390	0.164	5.9%
Regional Openness	-0.158	0.141	-1.120	0.261	-2.5%
Democratization	-0.026	0.009	-2.850	0.004	-7.2%
-2*ln(L): 305.15					
Constant	14.484	2.378	6.090	0.000	0.0%
Inflation	-0.773	0.462	-1.670	0.094	-5.4%
Inflation Volatility	-----	-----	-----	-----	-----
National Poverty	-0.209	0.047	-4.470	0.000	-10.3%
National Openness	-2.574	0.709	-3.630	0.000	-9.0%
Regional Poverty	-0.021	0.008	-2.570	0.010	-6.3%
Transport Costs	0.002	0.002	1.120	0.265	5.0%
Strikes	0.002	0.002	1.340	0.182	5.5%
Regional Openness	-0.159	0.141	-1.130	0.259	-2.5%
Democratization	-0.026	0.009	-2.830	0.005	-7.1%
-2*ln(L): 305.44					
Constant	14.854	2.578	5.760	0.000	0.0%
Inflation	-----	-----	-----	-----	-----
Inflation Volatility	-0.504	0.327	-1.540	0.123	-4.8%
National Poverty	-0.228	0.052	-4.400	0.000	-11.3%
National Openness	-2.518	0.706	-3.560	0.000	-8.9%
Regional Poverty	-0.019	0.008	-2.390	0.017	-5.8%
Transport Costs	0.000	0.001	0.340	0.733	1.0%
Strikes	0.003	0.002	1.520	0.129	6.6%
Regional Openness	-0.148	0.140	-1.050	0.293	-2.3%
Democratization	-0.027	0.009	-2.900	0.004	-7.4%
-2*ln(L): 305.99					

Notes: Due to some instances of missing observations, all estimates are based on 350 observations. Regarding fit, count R^2 statistics exceed 80% in all cases. Quantitative significance indicates the impact on the probability of a region being defined as economically integrated of a one-standard-deviation increase in the indicated variable.