Russian Regional Foreign Policy Looking East and West

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RUSSIAN REGIONAL FOREIGN POLICY LOOKING EAST AND WEST

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RUSSIAN REGIONAL FOREIGN POLICY LOOKING EAST AND WEST

Trends in economic globalization have caused regional leaders in all large federal states to pursue increasingly active foreign “policies.” This is so even though subnational units are not subjects of international law, and regional leaders’ statements, travels and deals may fit uneasily within their federation’s foreign policy. Many authors follow the example of Duchacek (1984) in calling the international activities of subnational units “paradiplomacy” (see also Aldecoa and Keating 1999; Lecours 2002; Bursens 2010). This phenomenon is quite old in the United States (see, for instance, Mettger 1955) but grew rapidly from the 1970s on (more recent studies include Fry 1998; McMillan 2009, 2010). The growing literature on the foreign-policy activities of subnational governments has yet to produce robust generalizations about what promotes what kinds of subnational foreign engagement. Russia’s constituent regions provide an excellent set of cases with which to pursue these issues.

Within just a few years after the Soviet Union broke up and even though the Russian economy was struggling, Russia’s regional leaders were visiting foreign countries, including beyond the CIS, to promote trade with and investment in their regions (Shklyar 1998, 293). Political deals at the local or regional level became vital for economic growth, not least because neighboring regions are competitors (Duchacek 1984). Therefore, Russia’s regions as foreign-policy actors have received attention from no small number of scholars: those based in Russia (Makarychev and Markarycheva 1997; Barabanov 2000; Makarychev et al. 2000; Romanova 2000; Granberg 2001; Makarychev 2002; Panova and Romanova 2002; Tolstyk 2002; Vardomskii and Skatershchikova 2002; Busygina and Lebedeva 2008; Turovskii 2011) and elsewhere (Melvin 1995; Shklyar 1998; de Spiegeleire 2000; Oldberg and Hedenskog 2002; Sharafutdinova 2003; Albina 2010).¹ Despite this attention, little is known about the overall patterns

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¹A separate question is how regional interests influence the setting of Russia’s overall foreign policy. Many of those cited above address this question as well, as do numerous other studies.
pertaining across all the country’s regions. Using the Russian regions as comparative cases, we will explore what factors influence a) which regions are active in paradiplomacy and b) in what direction different regions orient their foreign activities.

We combine statistical analyses of data from all 83 members of the Russian Federation with a detailed study of St. Petersburg city. We reach four conclusions: 1) a region’s level of international activity, both its economic connectedness (foreign investment, imports and exports) and its active paradiplomacy, can be well predicted by a few demographic and economic characteristics. 2) Regions with higher economic connectedness are also more active in signing foreign accords, but our cross-sectional analysis shows no causal relationship. A longitudinal study might reveal the payoffs from paradiplomacy in the area of economic connectedness, but our cross-sectional patterns suggest that the same factors that correlate with high economic connectedness are the factors that give regions the wherewithal to be active in paradiplomacy. In other words, while every regional leadership is likely to understand the importance of paradiplomacy, they vary primarily in how extensively they are capable of pursuing it. 3) Although several analysts of paradiplomacy in Russia argue that the non-ethnically Russian regions should have higher levels, we find that they are less active internationally. 4) Location matters for the direction of regional connections and paradiplomacy. Regions in Russia’s western portion are significantly more likely to be oriented in their international activities toward the countries of Europe. Those regions in the eastern portion of the country have significantly higher numbers of connections to China and other East Asian countries. The regions bordering Kazakhstan have much higher links to that country. Whether it is possible to improve on these large-n patterns by knowing the regions’ differing political situations or the qualities of their leaderships, we cannot say. Our findings, though, can provide a background against which to pursue that question.
Background on the Regions and their Foreign Activities

Russian Regions and the Power Vertical

Eighty three territories are constitutionally defined members of the Russian Federation. A subject or member of the Federation, or simply a region, can be an oblast, krai, republic, autonomous oblast, autonomous okrug or “city of federal status” (Moscow and St. Petersburg). Of the 83 regions, 26 are named after a non-Russian ethnic group or nationality comprising a relatively large portion of the region’s populace. They are designated either republics (21), autonomous okrugs (4) or an autonomous oblast’; for brevity, we will refer to these regions as “ethnic” or non-Russian regions. As a group, the regional executive leaders are typically referred to as governors, even in the case of the mayors of Moscow and St. Petersburg.

The regions vary in much more than their designated status and ethnic composition. Appendix A shows a map of Russia with the regions indicated. Their east-west spread is striking. Kaliningrad in the west--actually separated from the rest of Russia by Latvia and Lithuania--is at 20° longitude. The capital of the Chukotka Autonomous Oblast, touching the Bering Strait, lies 150 degrees to the east, or 42% of the earth’s circumference away. A region’s dominant historical connection may be with Protestant or Catholic Europe, with the Islamic Middle East or Central Asia or with East Asia. The territorially smallest region is the city of St. Petersburg, at 232 square miles. The largest is the Sakha Republic (Yakutia), at almost 1.2 million square miles. The most populous region is the city of Moscow, with over 11 million residents; the least populous is the Nenetsk Autonomous Okrug, along the Arctic Sea, with 42,000. Tiny

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2Originally, 89 territories had constitutional status. Following pressure from the Putin administration, six small regions located entirely within another member of the Federation have been merged into that larger region. (On the politics of the mergers, see Busygina 2007, 63-67).

3The City of Moscow is entirely surrounded by another subject of the Federation, called Moscow Oblast. When we refer simply to Moscow, we mean the city. St. Petersburg is similarly surrounded by another region, although it has a different name, Leningrad Oblast.

4These and other figures about the regions and their economic and social characteristics come from the Russian State Statistical Administration (Rosstat), as described more fully in Appendix B.
Nenetsk is also, however, the per capita richest region, measured by average monthly income in 2010, at 50,843 rubles (~$1,650); Moscow follows at 43,876 (~$1,400). The poorest region by this measure is the Republic of Kalmykia in the North Caucasus, at 7,540 rubles (~$245). The lowest infant mortality rate is found in Tambov Oblast at 4.2; the highest in Chukotka at 21.8. The region with the most ethnic Russians as a share of its populace in 2010 is Vologda Oblast, at 97%, while the smallest share is the Republic of Ingushetia, with eight-tenths of one percent.

In broad strokes, relations between Russia’s central authorities, or simply “the Kremlin,” and its regional authorities differed significantly between the 1990s and the 2000s. The collapse of the Soviet Union from 1990-1991 involved a politics in which Russian Republic leader Boris Yeltsin sought the support of regional leaders against the Soviet authorities. To gain that support, he encouraged key regional leaders to assert control over regional resources. With the end of the USSR and the initiation of radical economic reforms in 1992, Russia’s federal authorities and institutions lost tremendous authority both in general and vis-à-vis many regions. By the late 1990s, the sense that many regions had become fiefdoms flouting Moscow’s rules was widespread. In any case, such has become the common wisdom among Russians. As Russian President Dmitrii Medvedev (2010) said casually to representatives of social organizations from the Caucasus regions, “In the 1990s, we had no real authority anywhere, not in the Caucasus and not in the country as a whole, to be frank about it.”

In 2000, newly designated President Vladimir Putin set out to rein in the regions, which he saw as central to his efforts to create a stronger state. The short-hand for this was “strengthening the vertical [dimension] of power.” A key early step came when Putin established seven federal administrative districts, each composed of from six to 18 contiguously located regions (on these reforms, see Hyde 2001,

\footnote{5A large and strong literature analyzes the changing dynamics between the Russian and the regional leaderships, mostly treating the two sets as unitary actors (e.g., McAuley 1997, chs. 1-2; Clark 1998; Stepan 2000; Kahn 2002; Ross 2002; Stoliarov 2003; Bahry 2005; Gel’m an 2006b; Valentei 2006; Busygina 2007; Chebankova 2008; Mitin 2008; Burgess 2009; Gel’man 2009; Pomeranz 2009; Chebankova 2010).}
In 2010, an eighth district was created by pulling seven North Caucasus regions out of the Southern district. The federal administrative districts did not become a new levels of governance between the regions and the Kremlin. Rather, they streamlined the Kremlin’s oversight of the regions and provided a mechanism to pressure regional leaderships to repeal laws that conflicted with federal law. Reforms continued, including making the post of governor appointed by the Kremlin rather than elected (on this change and its impact, see Chebankova 2006; Slider 2009). The public protests surrounding the electoral fraud in the December 2011 legislative elections led the Kremlin to propose a return to electing governors, albeit with checks in place to give the Kremlin control over the outcomes.

In addition to institutional changes, Putin’s power vertical required a political party that would be strong within each region as well as on the national scale. In 1999, Putin’s supporters had set up a party called Unity to contest that year’s legislative elections. Following Unity’s strong showing in those elections and Putin’s win in the 2000 presidential election, an important rival party, Fatherland-All Russia, agreed in 2001 to merge with Unity, creating the United Russia party (Glebova 2004; Gel’man 2006a). Putin then began working to induce regional leaders to join--and ally their networks of supporters with--United Russia (Reuter and Remington 2009), thus creating a hegemonic or dominant party. Like hegemonic parties elsewhere, United Russia provides incentives for ambitious elites to promote central goals while pursuing their personal interests (Magaloni 2006; Magaloni and Kricheli 2010). Although United Russia did relatively poorly in the December 2011 election for the national legislature, it remains powerful in virtually every region and was able to produce a clear-cut victory for Putin in the March 2012 presidential election.

Patterns in the Regions’ Foreign Activities and Ties

The leaderships of the regions turned their attention to foreign markets fairly early in the post-Soviet period. For one thing, many more of Russia’s regions had international borders than was the case
when the USSR existed—43 vs. 11 (Shklyar 1998, 298). Beyond this, though, almost every region understood the importance for their economic wellbeing of cultivating international connections.

Although by one account only ten regions are responsible for 60 percent of Russia’s total exports . . . . even the less endowed regions actively seek markets for their local products abroad, and regional leaders regularly travel to [the] farthest reaches of the globe to sign bilateral economic cooperation treaties. . . . Most regions now have sophisticated websites and trade missions abroad” (Shklyar 1998, 301 [citing Igor Khripunov]).

Despite this common trend, however, the wide variation in regional characteristics noted above contributes to the variation in regional foreign activities and ties. As background for the statistical analyses that follow, we describe in this section the regional variation on three aspects of international connectedness: exports from the region to other countries, imports from other countries and foreign investment into the region.

The capital city Moscow, Russia’s largest city population and influence, boasts the greatest volume of total exports, far exceeding other federal subjects including energy-rich Tiumen Oblast, the second largest exporter-region, and St. Petersburg, the second largest city. Moscow’s exports in 2010 totaled $144.6 billion, more than tripling Tiumen’s exports of $45.3 billion. All of Russia’s other federal subjects lag even further behind. Moscow’s dominance reflects its large population base, national preeminence in education and science, its concentration of the headquarters of most financial-services and other corporations and its status as the national capital, making it favored among federal authorities and foreign firms for investment. Figure C.1 in Appendix C illustrates Moscow’s relationship to the other regions by presenting the regions arrayed from most to least exports in 2010.

On the other end of the spectrum, Chechnya and Ingushetia formally have zero exports in 2010, as far as the Customs Service of the Russian Federation is concerned. The Tyva Republic, the Jewish Autonomous Oblast, and the Republic of Adygeya are the lowest non-zero exporters, none exporting
more than $10 million in 2010. These five regions are not the only ones lagging behind, however. As Figure C.1 illustrates, the bulk of the regions have relatively small export volumes.

Still looking at exports, it is useful to distinguish between those going to countries in the Commonwealth of Independent States (CIS) and to other countries. Countries in the CIS are former Soviet republics that continue to have special economic and diplomatic ties to Russia. It is common in Russia to describe these countries as being the “near abroad,” that is, foreign to Russia in some but not all respects. Other countries fall into the “far abroad.” Russian official trade statistics distinguish whether exports and imports are with CIS or non-CIS countries. Regions vary not only in their total exports but also markedly in whether they are interacting with the CIS or not. The Karachaevo-Cherkess and Tyva Republics send over 85% of their export to the near abroad, while 13 regions send less than one percent. Other regions cover a range of points in between (see Figure C.2).

Turning now to imports, the regional variety is equally striking. Moscow leads again by a large margin; its 2010 total of $91.3 billion is 3.7 times as much as second-place St. Petersburg’s $24.5 billion. In third place is Moscow Oblast, at $20.7 billion. All the other regions lag substantially behind these three regions (Figure C.3). Moscow Oblast is increasingly populated by those employed in the city of Moscow, so these high levels of imports reflect the two largest cities’ population size, income levels and cosmopolitan character.

As with exports, only a few regions import more from the CIS than they do from elsewhere. For a dozen regions, less than 1% of their total imports are from the near abroad. By contrast, Belgorod, which borders former Soviet republic Ukraine, imports 83% of its goods from the CIS, while Orenburg, which borders former Soviet republic Kazakhstan, imports 69% of its goods from the CIS. Other regions falls along the range in between (Figure C.4).

In our analyses below, we will use both exports and imports as indicators of the regions’ international connectedness. Our third such indicator is an index we have constructed to measure the extent of
activity by foreign firms within each region. We employ three types of data provided by the Russian government for each region: a) the number of firms in the region that have foreign capital invested in them; b) the volume of trade turnover produced by those same firms, and c) the number of (non-foreign) employees of those same firms. The Cronbach’s alpha test and factor analyses showed these three measures to be inter-correlated sufficiently to construct a single index from them. To do this, we transformed each into a z-score (standardized them around a mean of zero and a standard deviation of one) then took the average across the three z-scores for each region. We will refer to this index as our measure of foreign firm activity.

As much as Russia’s regions vary in terms of their trading activities, it is no surprise that they vary in foreign firm activity. Moscow’s score on the index of 8.1 indicates that it is far above the mean on all three sub-measures. In 2010, for instance, Moscow had 4,703 registered enterprises with foreign capital, which is about four times the number working in St. Petersburg, the runner-up. Moscow had 580,000 employees of the foreign firms, with runner-up St. Petersburg at 217,000. Also indicating Moscow’s distinctiveness is that, while the mean of our index measure is, by its nature, close to zero, the median score is -.21. Sixty two of the 83 regions fall below the mean. Indeed, foreign firms had virtually no presence in quite a few regions. (Figure C.5 illustrates this pattern with trade turnover data; the other two sub-measures of our index are distributed quite similarly.) Predominating among the regions with little or no foreign firm activity are the non-Russian ethnic republics of the North Caucasus: Chechnya, Ingushetia and others, which have six of the nine lowest scores on this measure.

**Potential Influences on Subnational Foreign Activity**

To develop expectations about patterns across Russia’s regions, we combine the information above with findings from research on the foreign activities of Russia’s regions as well as that of subnational units elsewhere, including the U.S. states. Much of the literature on paradiplomacy has traced the growth over time of subnational foreign affairs, and the arguments therefore concern chronological trends
that do not help us understand cross-regional differences. For example, Duchacek (1984) almost three
decades ago pointed to the rising incentives for subnational foreign activism caused by global financial
changes along with changes in how federal governments provide welfare programs. Others examining the
impact of globalization on growing regional paradiplomacy include Melvin’s (1995) study of Russia, Fry

Prior studies of paradiplomacy have, though, identified a number of regional characteristics that
can be expected to differentiate the most active from the less active regions. The type of regional
characteristic receiving attention from the most authors is economic. The subnational unit’s factor
endowment, especially its store of natural resources, will clearly shape its prospects for international
activity (Turovskii 2011). The sectoral nature of the economy also matters by influencing the extent to
which foreign markets and investment are vital (Makarychev and Markarycheva 1997; Fry 1998;
Busygina and Lebedeva 2008). Economic “stability” and health are also thought to provide regions with
opportunities for enhanced international ties (Makarychev and Markarycheva 1997; Fry 1998; Busygina
and Lebedeva 2008; McMillan 2009). Ecological challenges may make transnational cooperation appeal-
ing (Sergunin 2001; Busygina and Lebedeva 2008).

In addition, many authors have pointed to the political system within the subnational units as
influencing levels of international paradiplomatic activity. Some stress the institutional framework and
party structure (Lecours 2002), or the way civil society organizes interest articulation and lobbying
(Aldecoa and Keating 1999; Sridharan 2003). Others point to the nature and ideological balance of the
region’s elites (Busygina and Lebedeva 2008; Turovskii 2011). For federal systems such as Russia,
which are composed of regions with different constitutional statuses, that status may also be a factor
(Barabanov 2000; Turovskii 2011).

Finally, quite a few analyses have drawn attention to the potential for a region’s foreign activities
to be boosted when that region has a distinct cultural heritage and, especially, when a sizable group of
those from that same cultural heritage live outside the country, in other words, when the region has a large diaspora (Aldecoa and Keating 1999; Sharafutdinova 2003; Turovskii 2011). When the region’s populace is dominated by a cultural heritage distinct within the overall national framework, that can be an impetus for the regional leaders to seek international ties as a way to boost that culture’s standing nationally. Diasporas can place particular emphasis on trade with their brethren inside the region, they may find it more comfortable to invest in the region, and they provide ways for citizens and elites of the region to gain access to foreign decisionmakers and markets.

Analyses

International Connectedness

We have three measures of international economic connectedness: the index of foreign firm activity, total imports and total exports. It is possible to predict regional levels on each of these three measures fairly well with basic information on the regions’ size, demographic and economic characteristics. In the tables that follow, we present the coefficients and standardized coefficients (beta weights) from ordinary least squares regression but also the coefficients from robust regressions (using the rreg procedure in Stata). We supplement the OLS regression results with robust regression because, for all three of our dependent variables and many of our independent variables, a small set of regions are sharp outliers from the others. Moscow, of course, as discussed earlier, stands virtually alone on many dimensions, but other regions such as the sparsely populated but energy-rich Nenetsk Autonomous Okrug emerge as outliers as well. We conducted a variety of diagnostics on our regression models, and they showed clearly that the OLS results were being influenced by these outliers. Robust regression down-weights outlier cases that would otherwise have a disproportionate influence on the results, including entirely disregarding extreme outliers. In every model, therefore, the procedure excludes the case of Moscow, and often several other regions. Although the robust regression results might in some sense be closer to a “true” relationship, they do not reflect the Russian reality of wide regional variance. We have chosen to present both sets of
coefficients. The beta weights, because they control for different scales of measurement being used for each variable, allow one to compare the relative impact of an independent variable: one with a higher absolute beta weight is more important for explaining variation in the dependent variable.

Table 1 presents the results of regressing our three dependent variables on a small number of regional economic, demographic and social characteristics. In particular, this basic model does not incorporate any indicator of the regions’ levels of pro-active paradiplomacy. Our independent variables include a measure of education--the proportion of the adult population that has completed at least some higher education--the population size of the region and its income per capita, as an indicator of economic development (using gross regional product per capita produces no change in our results). Because of the importance in Russia’s federalism of the distinction between predominantly ethnically Russian and other regions, to which some observers have pointed as relevant for regional international activity, we also include the proportion of each region’s population that is ethnically non-Russian.6 Finally, in analyzing levels of exports, we need to incorporate the fact that some regions are major sources of exportable minerals and energy. Those regions should be expected to have distinctly high export levels (Turovskii 2011, 111). We therefore include a measure of regional oil and gas output in the last year for which regional data are available, 2006. (See Appendix B for sources and more information on variables and index construction).

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6This measure is more appropriate in our regression models than a dummy variable for type of region and yet captures that distinction quite well. Republics and autonomous regions have high scores on this measure, while oblasts, krais and the federal cities have low scores. How non-Russian a region’s populace is, however, does matter politically and does vary within each category, so our numerical measure is superior substantively as well.
Table 1: Regression of International Penetration on Measures of Size and Development, 2010

<table>
<thead>
<tr>
<th></th>
<th>Foreign Firm Activity</th>
<th>Imports</th>
<th>Exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher Education (% of adult pop. with at least some)</td>
<td>.057**</td>
<td>0.001*</td>
<td>.29</td>
</tr>
<tr>
<td>Population (millions)</td>
<td>.344**</td>
<td>.178**</td>
<td>.60</td>
</tr>
<tr>
<td>Avg. Monthly Income (1,000s of rubles)</td>
<td>.020*</td>
<td>.006*</td>
<td>.16</td>
</tr>
<tr>
<td>Non-Russians as a % of the region’s populace</td>
<td>-.002</td>
<td>-0.002**</td>
<td>-.06</td>
</tr>
<tr>
<td>Index of Oil and Gas Output</td>
<td>42.102</td>
<td>-3.425</td>
<td>.07</td>
</tr>
<tr>
<td>Constant</td>
<td>-2.336</td>
<td>-0.676*</td>
<td>-25201.31</td>
</tr>
</tbody>
</table>

Adj. R²: Foreign Firm Activity = .76, Imports = .69, Exports = .58

Number of cases: Foreign Firm Activity = 82, Imports = 81, Exports = 82

** = significant at .01 or less, * = significant at .05 or less.

Sources: See Appendix B.

Table 1 shows that these relatively simple models can explain a high proportion of the regional variance, especially for foreign firm activity and imports. All three models explain over half of the variance, over three quarters in the case of foreign firm activity. In all three models, population size is the strongest influence, reflecting that larger regions have more customers, industry and potential employees (cf. Turovskii 2011, 111). Of course, Moscow boosts the influence of the population variable, but it remains significant also in the robust regression from which Moscow is excluded. More educated populations are associated with higher values on the measures of international transactions into the region: not just more customers and employees but more cosmopolitan customers and better trained employees.

Regional average income has an influence as well. Regions with higher incomes are more internationalized. The income measure captures both such things as purchasing power of the region’s residents as well as the character of the regional economy, with higher incomes flowing from economies with more higher-end manufacturing and service sectors. It likely also captures the distinction Busygina and Lebedeva (2008) refer to as regions being in Russia’s economic center, semi-periphery or periphery. In none of the three models does the proportion of ethnically non-Russian residents matter. For export levels, the meas-
ure of oil and gas extraction also has an insignificant influence when controlling for the other factors. Indeed, in the robust regression, it become negatively related to total exports. Comparing the OLS and the robust coefficients across the three models, the robust coefficients tend to be substantially smaller in size, indicating the less extreme range of cases included in the model. They do not, however, lose their statistical significance. Overall, the results in Table 1 indicate that regional education, population and income go a long way toward explaining the broad regional variance across Russia.

How do the basic models change if we incorporate a measure of active foreign engagement by the regional leaderships? In other words, might we find evidence that paradiplomacy accounts for why some regions are more or less internationalized than the basic models predict? It is hard to find systematic data on regions’ active efforts to promote international ties. As a preliminary effort, we have calculated the number of partnership agreements, such as sister-city relationships, between a region or one of the cities within that region and a governmental unit in a foreign country. Twelve, or about a seventh, of the regions have none at all while Moscow Oblast and the city of St. Petersburg have almost 90 each.

Foreign firm activity, imports and exports are all strongly correlated with the number of agreements. Using Kendall’s tau-b statistic as a rank-order correlation, to control for the influence of outliers such as Moscow, the correlations are: foreign firm involvement .45, imports at .47 and exports at .31 (all significant at .000). If, per our question above, the number of agreements also explained over-performance and under-performance, then that number should also be positively correlated with the residuals from the models in Table 1. However, the correlations are instead negative: -.16 (.04), -.16 (.04) and -.11 (.15). Table 2 shows the same models as in Table 1 with the agreements variable included. Reflecting the same pattern as the correlations, the OLS coefficients are all negative (although two become positive in the robust estimation). Part of the story is that Moscow is so high on international connectedness relative
to other regions that its residual from the basic model remains quite large. It may well be that pursuing international agreements and engaging in other forms of paradiplomacy boost trade and foreign investment, but a cross-sectional analysis cannot show that.

### TABLE 2: INTERNATIONAL PENETRATION WITH INTERNATIONAL PARTNERSHIPS, 2010

<table>
<thead>
<tr>
<th></th>
<th>Foreign Firm Activity</th>
<th>Imports</th>
<th>Exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher Education (% of adult pop. with at least some)</td>
<td>.069** .001 .35</td>
<td>838.802** 3.000* .39</td>
<td>1006.853** -2.219 .29</td>
</tr>
<tr>
<td>Population (millions)</td>
<td>.378** .163** .66</td>
<td>3263.796** 334.932** .53</td>
<td>7025.798** 838.831** .72</td>
</tr>
<tr>
<td>Avg. Monthly Income (1,000s of rubles)</td>
<td>.017* .006*.14</td>
<td>152.523 4.096 .11</td>
<td>398.863* 58.228** .18</td>
</tr>
<tr>
<td>Non-Russians as a % of the region's populace</td>
<td>-0.004 -0.001* -0.09</td>
<td>-25.856 -6.034** -0.06</td>
<td>-37.556 -3.635 -0.06</td>
</tr>
<tr>
<td>Index of Oil and Gas Output</td>
<td>24.622</td>
<td>-5.819 .04</td>
<td></td>
</tr>
<tr>
<td>Total Number of foreign partnership agreements</td>
<td>-0.010 0.004* -0.15</td>
<td>-38.316 2.070 -.05</td>
<td>-426.666** -24.316* -0.37</td>
</tr>
<tr>
<td>Constant</td>
<td>-2.535 -0.674</td>
<td>-25959.67 -593.898</td>
<td>-35401.200 -274.496</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>.77</td>
<td>.68</td>
<td>.65</td>
</tr>
<tr>
<td>Number of cases</td>
<td>82 81</td>
<td>82 81</td>
<td>82 80</td>
</tr>
</tbody>
</table>

** = significant at .01 or less. * = significant at .05 or less.

Sources: See Appendix B.

### Explaining Regional Differences in Paradiplomacy

We introduced our measure of cross-regional variety in international partnership agreements above to complement the basic models for explaining international connectedness. The agreements deserve attention in their own right, however. Are they the result of elite initiative and creativity in ways that make them separate from the basic international orientation of the regions? In other words, might a region with little in the way of foreign economic connections nonetheless be establishing a high number of partnership agreements, which often stress cultural and citizen exchanges?

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7 As an alternative to the multivariate model in Table 2, we explored the correlation between the number of foreign partnership agreements and the residuals from the models in Table 1. A positive correlation would have suggested that partnership agreements helped regions “outperform” their expected level of international connectedness, but we found no such relationship.
We begin by breaking down the agreement totals in two simple ways. Figure 1 presents the average number of agreements across two sets of regional groupings. On the left, it shows the average for each of Russia’s eight federal administrative districts. Those eight bars portray the geographic distribution of agreements because they are arrayed from left to right to indicate roughly the location of the federal districts from west to east. There is a modest correlation between the longitude of the regional capital (as an indicator of the region’s east-west location) and the number of agreements (−.27 [.01]). The downward tendency of the bars from left to right depicts this visually.

**Figure 1:** Average Number of International Partnerships by Federal Administrative District and by Regional Type

<table>
<thead>
<tr>
<th>Region</th>
<th>Average Partnerships</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northwest</td>
<td>19.8</td>
</tr>
<tr>
<td>Central</td>
<td>13.0</td>
</tr>
<tr>
<td>Volga</td>
<td>6.3</td>
</tr>
<tr>
<td>Southern</td>
<td>13.7</td>
</tr>
<tr>
<td>North Caucasus</td>
<td>3.0</td>
</tr>
<tr>
<td>Urals</td>
<td>5.7</td>
</tr>
<tr>
<td>Siberian</td>
<td>4.9</td>
</tr>
<tr>
<td>Far East</td>
<td>3.2</td>
</tr>
<tr>
<td>Republics, AOs</td>
<td>3.0</td>
</tr>
<tr>
<td>Oblasts, Krais</td>
<td>10.1</td>
</tr>
<tr>
<td>Cities</td>
<td>65.0</td>
</tr>
</tbody>
</table>

Sources: See Appendix B.
For the bars on the left side of Figure 1, the unusual districts are actually the Volga and North Caucasus districts, for how few agreements they have. Both districts are composed to a large extent of ethnic regions: either republics or autonomous okrugs. This suggests that we investigate the impact of the constitutional type of the region. A t-test of the difference in means between ethnic regions (mean number of agreements = 3) and other regions (12) is significant at 2.71 (.01). Figure 1, therefore, also shows the bars corresponding to grouping the regions by constitutional type: the ethnic regions (republics, autonomous okrugs and autonomous oblast), the oblasts and krais, and the cities of Moscow and St. Petersburg. As noted above, Moscow and St. Petersburg are more highly internationalized in many ways than other regions. Even excluding them, however, the primarily ethnically Russian regions (i.e., the oblasts and krais) are distinctly more active than the non-Russian regions. The t-test mentioned above remains significant when Moscow and St. Petersburg are removed.

To confirm these categorical breakdowns, we show in Table 3 the results of regressing regional number of partnership agreements against our basic model, a dummy variable for the regions of the Northwest Federal Administrative District and the proportion of ethnically non-Russian residents. All the explanatory variables are significant; all except income remain significant in a robust regression. The beta coefficients suggest as well that each of the five factors in the model has a substantive impact on the number of agreements.
In many ways, then, the degree of active paradiplomacy across the regions is a function of the same factors as their degree of international economic connectedness. In contrast to scholarship that has suggested that the non-Russian regions, especially the republics, will be more motivated or more capable of paradiplomacy (Sharafutdinova 2003), our large-n analysis suggests that those regions lag far behind the ethnically Russian regions.

**Directionality**

We switch now from exploring overall levels of international activity to focusing on *which* countries provide partners for Russian regions. We expect, naturally that Russia’s regions will have international ties, including partnership agreements, with countries or regions in foreign countries that are located in closer proximity (cf. Stoddard 1982; Duchacek 1984; Hocking 1986; Vardomskii and Skatershchikova 2002; Turovskii 2011). Given Russia’s enormous east-west spread, some regions are located where ties to Europe make much sense and others where ties to Europe are prohibitively expensive. Similarly for ties to China or Japan or Central Asia. We have data on foreign firm activity from a

### Table 3: Regression of International Partnerships, 2010

<table>
<thead>
<tr>
<th></th>
<th>Coeff.</th>
<th>Robust Coeff.</th>
<th>Beta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher Education ( % of adult pop. with some)</td>
<td>1.145**</td>
<td>.031*</td>
<td>.38</td>
</tr>
<tr>
<td>Population (millions)</td>
<td>4.106**</td>
<td>1.94**</td>
<td>.48</td>
</tr>
<tr>
<td>Income Per Capita (1,000s of rubles)</td>
<td>-.379*</td>
<td>-.191</td>
<td>-.20</td>
</tr>
<tr>
<td>Northwest Federal Administrative District</td>
<td>15.432**</td>
<td>9.244**</td>
<td>.36</td>
</tr>
<tr>
<td>Ethnic Non-Russians as % of Population</td>
<td>-.094*</td>
<td>-.062**</td>
<td>-.16</td>
</tr>
<tr>
<td>Constant</td>
<td>-20.337</td>
<td>-0.676*</td>
<td></td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>.61</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of cases</td>
<td>82</td>
<td>81</td>
<td></td>
</tr>
</tbody>
</table>

** = significant at .01 or less. * = significant at .05 or less.

Sources: See Appendix B.
number of different countries as well as partnership agreements with those countries, so we explore whether these are patterned in “geographically sensible” ways.

The following are tables of simple t-tests on the geographic location of each region and direction of paradiplomacy. Table 4 summarizes the t-test results on regions’ geographical locations and the location of the countries with which they have partnership agreements. For each region, we calculated the percent of the total agreements that are with cities or regions in a European country and the percent with an East Asian country. (See Appendix B for details.) The t-test shows whether the average share of a region’s total agreements that is with Europe (or Asia) differs significantly between regions located in one part of Russia and another. (To be counted, the region must have at least one agreement in total. This leaves out 12 regions.) To serve as an indicator of being one of Russia’s western regions, we used those where the regional capital city is located at 40° longitude or less. As an indicator of the regions that we would expect to be oriented toward East Asia, we use the regions that belong to either the Siberian or Far Eastern Federal Administrative Districts. The top number in each cell in Table 4 is the absolute value of the t-test. Below that, we provide the significance level. The italicized numbers provide the mean scores for the given set of regions versus the remaining regions.

### Table 4: Regional Location and Direction of Partnership Agreements

<table>
<thead>
<tr>
<th>The Region is in the Siberian or Far East Federal District?</th>
<th>Europe (excluding CIS)</th>
<th>Asia</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The Region’s Capital is West of 40° Longitude?</td>
<td>3.77 (.000)</td>
</tr>
<tr>
<td></td>
<td>No: 47%</td>
<td>Yes: 73%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sources: See Appendix B.

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8This line of longitude falls quite close to the eastern border of Ukraine in the south, thus including Rostov and Krasnodar as being western, and falls east of Moscow further north, including Yaroslavl as being western.
As is clear from the table, Russia’s western regions tend to be much more engaged with Europe than regions located elsewhere while its eastern regions are more engaged with Asia. The western regions on average devote half again as high a proportion of their formal international ties to European partners. The eastern regions are not Asia-focused, necessarily; less than half of their accords are with Asian countries. That level is, however, over five times the share found among the other regions of Russia.

Table 5 summarizes the t-test results on regions’ geographical locations and the location of the origin of foreign organizations working in the region. As in the previous table, we compare geographically grouped sets of regions to the rest of the regions, this time on the total number of foreign-financed firms operating in the region. As sources of foreign investment, we focus on Europe, distinguishing between the far abroad and the near abroad, Kazakhstan and China. Together, these are contiguous with the bulk of Russia’s border.

**Table 5: Regional Location and Origin of Foreign Firm Investment**

<table>
<thead>
<tr>
<th>Source of the Foreign Capital Invested in Firms in the Region</th>
<th>The Region’s Capital is West of 40° Longitude?</th>
<th>The Region Borders Kazakhstan?</th>
<th>The Region Borders China?</th>
<th>The Region is in the Siberian or Far East Federal District?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western Europe (Finland, Germany, U.K.)</td>
<td>3.19 (0.002) No: 12 Yes: 29</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>European Near Abroad (Belarus and Ukraine)</td>
<td>4.63 (0.000) No: 7 Yes: 47</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kazakhstan</td>
<td></td>
<td>6.53 (0.000) No: 2 Yes: 26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>China</td>
<td></td>
<td></td>
<td>9.36 (0.000) No: 5 Yes: 71</td>
<td>6.72 (0.000) No: 2 Yes: 32</td>
</tr>
</tbody>
</table>

Sources: See Appendix B. * represents statistical significance at .05 or less; ** at .01 or less.

Overall, the results are indeed geographically sensible. The location of a region has a statistically significant relationship with the origin of the foreign organizations working in the region. Russia’s
western regions have a much more extensive presence of European countries in their regional economies than do Russia’s other regions—over twice as many on average for Western Europe and almost seven times for Belarus and Ukraine. The ten regions that share a border with Kazakhstan average 26 firms funded with capital from Kazakhstan whereas the other 73 regions average two. A huge difference in the average levels is evident with regard to China. The set of regions we treated above as Russia’s eastern regions (those in the Siberian and Far Eastern Federal Districts) have a large and significant t-score, which grows even bigger when we define the relevant set of regions instead as the five sharing a border with China.

**The Case of St. Petersburg**

The “Northern Capital of Russia,” “Russia’s Window on the West” – there are several titles that describe Saint Petersburg as an exceptional city in Russians’ minds. With about 4.9 million inhabitants (Russian Federal State Statistics Agency 2012), it is the second largest city only after Moscow, and ranks fourth in population among all the federal subjects of Russia. Geographically, the city is located in northern Europe, at the head of the Gulf of Finland on the Baltic Sea. In addition to its geographic location, Saint Petersburg was founded in 1703 by Tsar Peter in order to serve as the most European city of Russia. Although the central government bodies were moved back to Moscow in 1918, St. Petersburg remains the scientific, economic and, especially, cultural center of the country. St. Petersburg is the home town for both Putin and Medvedev, and the source of many top officials in the Russian leadership, many of whom share their backgrounds in St. Petersburg State University (formerly Leningrad State University).

The city is also Russia’s major transportation hub with Europe, being closely connected to Moscow, Baltic States and Scandinavian countries. Its geographical proximity to the Baltic Sea and the Gulf of Finland encourages cruise ships and international ferries to stop frequently at its port. As the capital of imperial Russia for about 200 years, its prestigious cultural heritage, including the world’s largest collection of paintings in Hermitage Museum, makes the city a major tourist attraction. UNESCO has listed the
“Historic Centre of Saint Petersburg and Related Groups of Monuments” as a World Heritage Site. It is not surprising that the city is home to numerous international corporations, foreign consulates and organizations of various sorts. As noted above, it is second to Moscow in the number and economic output of foreign firms operating there. According to the Globalization and World Cities Project’s roster (2010), Saint Petersburg is the only Russian city besides Moscow to be listed as a “world city.” According to a different ranking, that of the Global City Competitive Index (Watson 2012), Saint Petersburg ranks 100th among all world cities.

Does St. Petersburg’s high level of international involvement and openness, however, result from the sociocultural and economic infrastructure it inherited from Soviet times? Or, do efforts by the city’s leaders account for some of its internationalized character. We turn now to examining that efforts of the government of Saint Petersburg to be actively involved in paradiplomacy, which should not be underestimated.

Overall, the regional government of Saint Petersburg is very open and Western-oriented. The “traditional values of Saint Petersburg” promoted by the official administration of Saint Petersburg and listed in *The Socio-Economic Development Concept of Saint Petersburg for 2020*, (Komitet Ekonomicheskogo Razvitia 2011) explicitly discusses concepts such as the “individuality of the city,” “universalism,” “susceptibility to other cultures,” “tolerance of foreign beliefs,” “freedom,” and the “free and open entrance to Europe from Saint Petersburg and vice versa,” reflecting how much of a global (especially European) dynamic the regional government is emphasizing. According to this development concept, by 2020 Saint Petersburg aims to become one of the most influential centers of Northern Europe, Russia’s leading exporter of high-tech industrial goods and scientific-technical research services and its leading international tourist center, as well as to have created more successful means for intercultural, cross-lingual, and inter-religious interactions.
Active involvement in regional paradiplomacy also reveals how much the city desires to be interconnected with the world and Europe in particular. Using our measure of foreign partnerships, we see that Saint Petersburg has been very active in social and cultural paradiplomacy. Saint Petersburg has 88 partnership agreements with foreign cities, a close second to Moscow Oblast (total 89). Note that the city of Moscow has only a total of 42 partnerships, half of Saint Petersburg’s total. Among those 88 sister-cities of Saint Petersburg, three-fifths (54) are located in European continent, compared to two-fifths (18) for the city of Moscow.

Another direct indication of active paradiplomacy is the involvement of the regional governor and official delegations in visits abroad as well as hosting and holding such events in the city. To illustrate St. Petersburg’s activities, we will now summarize the range of these activities for the year 2010, the same years as the data in our analyses above. The following come from the Committee on Foreign Activities of the Saint Petersburg government (Komitet po Vneshnim Sviazam Sankt Peterburga 2012).

- Saint Petersburg made over 20 presentations in various international events to promote a positive image of Saint Petersburg overseas including in: Australia, Austria, Italy, U.K., Finland, Ukraine, France, Germany, Spain, Iran, Israel, Norway, and Poland.
- Overall, roughly over 170 “notable” ceremonies, conferences, festivals, forums, seminars, and round tables on cooperation of academic, cultural, diplomatic, and economic and social security policy were hosted and held in Saint Petersburg.
- Over 35 presentations, exhibitions, festivals and events on different countries, regions, and partner-cities were hosted and held in Saint Petersburg. The countries represented were Columbia, China, Estonia, France, Japan, Jordan, India, Ireland, Luxemburg, Mexico, Netherlands, Norway, Poland, Scotland, South Korea, Switzerland, and United States.
- Fifteen protocols, agreements and declarations were made for bilateral cooperation between Saint Petersburg and other major cities and corporations around the world. The cities and corporations included those of Brazil, Argentina, India, China, Indonesia, Italy, United States, South Korea, Ukraine, Latvia, Ireland, Australia, Iran, and France. Six agreements were made for bilateral cooperation between different “districts” of Saint Petersburg and other cities, such as Ukraine, Czech Republic, South Korea, and Greece.
- Saint Petersburg maintains 17 information and representation centers around the world. Eleven major activities were held by these centers in Austria, Norway, Finland, Ukraine, Estonia, Germany, and Israel.
- Sixteen visits abroad were made by official delegations to participate in conferences, seminars, meetings to discuss programs of cooperation with regional international organizations. Most of these were
with geographically contiguous European countries: Finland, Estonia, and Latvia. Saint Petersburg participated in about 5 major meetings on cooperation with organizations of Baltic countries.

- Four meetings (including international conferences) were held with the European Union, on matters such as cultural partnerships and stimulating employment of the population in border regions of Russia.
- Six meetings and visits were made by Saint Petersburg governor Matvienko and other officials with sub-organizations of the United Nations, mostly UNESCO and UNICEF, notably on matters regarding refugees (UNCHR) and racism (ECCAR, UNESCO).

From the perspective of most of Russia’s other regions, this is an impressive volume of international activity. Russia’s notable city on its east coast, Vladivostok, and the Primorskii region it belongs to, lack the infrastructure of St. Petersburg for international activities, including a separate ministry. The entire Primorskii region has only 18 partnership agreements, 70 less than the city of St. Petersburg. When compared to other major world cities, however, we suspect that the scope of St. Petersburg’s paradiplomatic activity does not stand out so clearly. While all of the leaderships of Russia’s regions no doubt understand the importance for their regions of international connections, St. Petersburg’s leadership within Russia may flow primarily from it having a large and well educated population and a developed economy.

Inasmuch as being a “free and open entrance to Europe and vice versa” is listed as a traditional value of Saint Petersburg, and “becoming one of the most influential cities of Northern Europe” is an official target, it is no surprise that Europe has always been of a particular importance in St. Petersburg’s international activities. Many more of its visits and meeting were held with EU countries than with any other region. Similarly, presentations and exhibitions to promote St. Petersburg occur mostly in EU countries. Of the 20 such presentations in 2010, all except two took place in Europe. Of the 35 countries with which Saint Petersburg had diplomatic ties in 2010, 21 were European.

No doubt, geographical contiguity plays a large role in this tilt toward Europe. At the same time, the perspective of the Russian government toward the EU is another factor that we could take into account. The Kremlin may not be fully align with EU countries in the political and security issue-areas, but it seeks
greater economic cooperation, the continued purchase by Europeans of its oil and gas. Very recently, former Saint Petersburg governor Matvienko, now leader of Russia’s Senate, in her meeting with the Association of European Senates, discussed the views of the Russian government that EU and Russia should take full potentials of cooperation, and that the starting point of the integration could be a step further in the spheres of energy, to the extent of creating one energy complex in Europe (Matvienko 2012). It is likely that Saint Petersburg enjoys its extensive cultural and economic paradiplomacy with the world but Europe in particular, mainly because it has its necessary cultural, economic, and human capital infrastructure, but also because Kremlin views it as favorable for Russian Federation as a whole. Strengthening the base of cooperation through increased cultural, social and commercial interaction cannot hurt Kremlin’s pursuit for deeper penetration into the European energy market.

Indeed, the regional government of Saint Petersburg is trying hard to promote the city to the world and bring in more global dynamics into the city as well. Do these international activities imply a full autonomous decision-making by the regional government on its own? It is more likely that the regional government is enjoying its economic and cultural paradiplomacy under the conditions of approval of the federal center. According to the official document *The Socio-Economic Concept of Saint Petersburg through 2020* (Komitet Ekonomicheskogo Razvitiiia 2011), city leaders stress that the development of the city significantly depends on external factors, international and federal. In other words, Saint Petersburg recognizes the importance of the flow of international economy and international trade, but in more detail discusses the importance of the preferences of the federal center such as the scope and structure of international trade of the Russian Federation, migration policies of the Russian Federation, share of Russia in world capital market, and the direction of institutional, administrative, and structural reforms of the Russian Federation. Such official recognition of the importance of the federal center’s decision toward international activities reflects how much pro-Kremlin the regional government of Saint Petersburg is its decision-making processes.
Conclusion

While Russia’s regions vary dramatically in their level of international engagement, our analyses suggest that the pattern is understandable as a function of regional capabilities that flow from such regional characteristics as population, income and education level. We also find that the “direction” of such international engagement (which countries are a region’s partners) flows from the region’s location across Russia’s breadth. Although neither conclusion is surprising, perhaps, they had not been shown before in a study of all the regions. For many of the variables hypothesized by other analysts to explain cross-regional differences, we either lack available data or the cross-sectional nature of our research design prevents us from testing them. We do, though, cast doubt on the proposition that Russia’s ethnic regions, especially its republics, should be in the lead among Russia’s regions. Also, the success of our basic models in explaining international connectedness and partnership agreements raises the question of what a regional leadership can do to boost its paradiplomacy beyond what its capabilities allow. As we document, St. Petersburg conducts an impressive array of activities to promote its international interests. It also scores highly in terms of its capabilities, though. Regions without St. Petersburg’s demographic and social assets may find effective paradiplomacy more difficult.
Appendix B: Data Sources

Much of our data comes from various editions of *Regiony Rossii* (Regions of Russia), the annual publication of Russia’s Federal State Statistics Agency, or Rosstat. From 2001 on, these volumes are available as downloadable files at [http://www.gks.ru/wps/wcm/connect/rosstat/rosstatsite/main-/publishing/catalog/statisticCollections/doc_1138623506156](http://www.gks.ru/wps/wcm/connect/rosstat/rosstatsite/main-/publishing/catalog/statisticCollections/doc_1138623506156). The 2010 data on foreign firm activity, imports, exports, income, population size, oil production and natural gas production come from the 2011 edition of *Regiony Rossii*. We divided both income and population size by 1,000 so that we could express the coefficients from our models without scientific notation.

Our index of foreign firm activity is created from three variables: the number of firms operating in the region with foreign capital, the volume trade turnover produced in that year by those firms and the number of Russian citizens employed by those firms. For the index, each of these three variables, since they are measured in distinct metrics, are converted to standardized values, or z-scores (changed arithmetically so that their distribution has a mean of 0 and a standard deviation of 1), and then each region receives the average of its z-scores on the three variables. The index, therefore, measures how high or low relative to other regions the given region is across these three related variables. The Cronbach’s alpha score for the three variables is .93. We used the alpha procedure in Stata to generate the index variable.

To construct our index of oil and gas production, we used data from 2006 because Rosstat stopped providing regional totals thereafter. To put both oil and natural gas output quantities into the same metric, we divided each of these variables by amount produced by the region producing the most in 2006 (Tiumen for both oil and gas), then multiplied by 100. By so transforming the variables, each region’s score becomes its percentage of the maximum being produced that year. Because oil and gas are exported separately to different markets and a region could be an exporter of one or the other or both, the proper
way to combine the measures of oil and gas production is to add them. Our index, then, ranges from zero (51 regions) to 200 (Tiumen). The mean is 5.2 (median of zero), and the standard deviation is 25.7.

Our data on higher education and regional ethnic composition come from Russia’s 2010 census, also published by Rosstat (Russian Federal State Statistics Agency 2012). The measure of higher education is the percentage of the region’s 15-and-over population having incomplete higher education or complete higher education or postgraduate education. (The data are provided as the number per 1,000 residents; we divided by ten to produce percentages.) We calculated the percent of ethnically non-Russian residents by subtracting the percentage of Russians from 100.

Our measure of the number of international partnership agreements was based on data from official websites of Russian cities on their sister-city relationships around the world. The information is collected by Sister Cities International (www.sister-cities.org; International Directory, category of Russian Federation) and annual publications Cite-Unies-France (Всемирная федерация породнённых городов, translated as International Association of Sister-Cities, http://www.cites-unies-france.org), an international non-governmental organization founded in France in 1957. A listing of the data can be also found in http://ru.wikipedia.org, the Russian-language version of Wikipedia.

Using the collection of sister-city data for each Russian city, we grouped the data accordingly by regions of Russian Federation (based on in which region the city is located). We then coded the sister-city data by the geographical location: 1) Europe (countries located in European continent, meaning Scandinavia, the Baltic States, Central Europe, Western Europe, and Southern Europe. We excluded the CIS, and included Israel due to the many cultural and social ties shared with the West), 2) North America (United States and Canada), 3) East Asia (China, North and South Korea, Japan, Mongolia, Taiwan, Thailand, Singapore), 4) CIS (including post-Soviet countries located in Europe, such as Ukraine and Belarus), and 5) Other (Countries of Africa, India, Latin and South America, Middle East, and South Asia such as Vietnam). Finally, in employing the sister-city Europe and sister-city Asia variables in Tables 4
and 5, we re-coded them as proportional variables (for example, sister-city Europe/ sister-city Total). The data on sister-cities can be provided for replication upon request.
Appendix C: Charts Showing Regional Variation in Foreign Connectedness

Sources: See Appendix B.

**Figure C.1** Regional exports in millions of U.S. dollars, 2010

**Figure C.2** Share of regional total exports going to CIS countries, 2010
**Figure C.3: Regional Imports in Millions of U.S. Dollars, 2010**

**Figure C.4: Share of Total Regional Imports Coming From CIS Countries, 2010**

**Figure C.5: Trade Turnover of Foreign Organizations in Billions of Rubles, 2010**
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