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# Russian Federation

## Regional Development and Growth Agglomerations

### The Longer Term Challenges of Economic Transition in the Russian Federation

#### A Country Economic Memorandum for Russia

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## **ACRONYMS AND ABBREVIATIONS**

BEEPS	-	Business Enterprise Environment Performance Survey
CEM	-	Country Economic Memorandum
CIS	-	Commonwealth of Independent States
EBRD	-	European Bank for Reconstruction and Development
EU	-	European Union
FDI	-	Foreign Direct Investment
GDP	-	Gross Domestic Product
GRP	-	Gross Regional Product
ICA	-	Investment Climate Assessment
NOBUS	-	National Survey of Household Welfare and Program Participation
NUTS	-	Nomenclature des Unites Territoriales Statistiques
OECD	-	Organisation for Economic Cooperation and Development
OLS	-	Ordinary Least Squares
OPORA	-	All-Russian Organization for Small and Medium-Sized Entrepreneurship
RF	-	Russian Federation
PPP	-	Purchasing Power Parity

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# EXECUTIVE SUMMARY

## Introduction

1. Vast geographic and cultural diversity gives a unique dimension of complexity to economic and political transformation in the Russian Federation. The rich natural endowments of the country are distributed highly unevenly among Russian Subjects of the Federation (regions). Seventy years of Soviet planning left a geographic distribution of settlements and capital that is often poorly related to economic comparative advantage. This includes significant settlements and capital in extremely cold areas, where economic efficiency is inherently low. The large size and ethnic diversity of Russia has always posed strong challenges for central governance, and policies of Moscow toward the regions can be associated with important political, as well as economic, complexities.

2. As Russia continues to make rapid general progress in building modern market institutions, the complex spatial dimension of transformation in the country will continue to present strong policy challenges for many years to come. In fact, these challenges are arguably becoming progressively stronger. As confirmed in this Country Economic Memorandum, economic growth has become much more unevenly distributed across the Russian Federation in recent years, with a sharp contrast opening up between growth agglomerations in much of the Western part of the country and much more modest development in the East and North. A significantly decreasing and aging working population also imposes severe constraints to the sustainability of growth in regions that are unable to attract a large number of migrants. Given limitations in the speed of migration, and significant uncertainty about the economic potential of many regions, the regional dimension of economic growth has major implications for sustaining the current strong momentum in poverty reduction.

3. The Russian government is aware that it faces considerable future challenges in the spatial dimensions of economic development. This was the motivation for creating a Ministry of Regional Development in 2004, and bestowing on this Ministry augmented authority and influence in 2007. Much time and effort in recent years has been devoted to the drafting of a National Regional Strategy that would facilitate the adoption and coordination of policies in the area of regional and spatial development. However, considerable disagreements within the government and policy circles over the nature of this strategy have delayed its adoption. Primary sources of controversy include the degree to which the Strategy should focus on supporting growth points, as opposed to lagging regions, and on the particular policy roles of the federal, regional, and local levels of government.

4. This Country Economic Memorandum (CEM) focuses on regional development in the Russian Federation. It first conducts an examination of recent trends in the regional dimension of growth based on available economic data for the country as a whole. Particular attention is given to the topics of convergence, agglomeration, and the sources of regional growth. In this endeavor, the analysis distinguishes between two quite different recent periods of economic growth: 1999-2003 and 2004-2006. A regional-level survey allows for the examination of

perceptions of entrepreneurs working in two poorer-than-average regions that have been exhibiting impressive rates of growth in recent years: Rostov and Tver oblasts. The conclusions obtained in these investigations are then related to the question of what type of a national regional strategy, if any, might be useful for Russia.

5. An examination of recent growth trends reveals important shifts in the pattern of regional growth in Russia. The regionally broad-based growth in the years following the financial crisis of 1998-1999 has been replaced by much more geographically uneven growth that is concentrated in agglomerations in the Western part of the country. As a number of Western regions experiencing relatively rapid growth have below-median income levels, and growth has slowed in some resource-rich regions, regional growth patterns in Russia still have a strong pro-poor component. Yet, the emergence of Western growth agglomerations and the growing East-West divide suggest strong challenges in managing the future regional dimension of economic development in the country. The problem of lagging regions in the East should attract increasing political attention. In the emerging growth agglomerations in the West, the sustainability of rapid growth is threatened by labor shortages, infrastructure constraints, and a protectionist lobby against growing competitive pressures from all-Russian and world markets.

6. In the light of these challenges, the CEM recommends that Russia continue to contemplate a coordinated national regional strategy to meet these considerable challenges. This strategy should encompass four main tasks (a) the facilitation of movements of labor and capital to areas of greater economic promise (in particular, the current pace of migration appears to be inadequate), (b) the provision of opportunities for regional (local) administrations and entrepreneurs in lagging regions to realize their own initiatives for improving the local economic situation, (c) the maintenance of minimal social and living standards across Russian regions, and (d) the provision of key infrastructure to better link and integrate the national market.

7. Russia is already pursuing a number of policies that are consistent with these goals. This includes some changes in migration policies, the defense of a unified economic space in the country, the implementation of more effective formulae for intergovernmental transfers, the drafting of development strategies at the regional level consistent with federal priorities, and the general prioritization of infrastructure, human capital, and other productivity-enhancing investments over subsidies to low productivity firms.

8. Nevertheless, an effective national regional strategy for Russia will also require a shift of emphasis in certain areas. Migration and other related policies at the national and regional levels will most likely need to be adjusted to accommodate Russia's growing needs in labor supply. An enormous degree of uncertainty exists about the economic potential of many regions, and competition for labor and capital coming from emerging growth agglomerations in other regions can seriously complicate the realization of this potential. In this context, opportunities for genuine decentralized initiatives at regional and local levels can be critical for the successful economic development of regions with genuine potential, as well as for economizing on the high social and economic costs of mass internal migration. Given the strong continuing trends in Russia toward political centralization, supporting appropriate incentives for decentralized initiatives at the subnational level promises to be a challenge. On the one hand, a stronger orientation of the regions toward Moscow creates enhanced opportunities for coordination and cooperation in the realization of regional initiatives. On the other hand, too strong a hand of the center can also undermine incentives for local and regional officials to push ahead with their own initiatives or elicit the initiatives of local entrepreneurs. A fundamental principle for the success of a regional development strategy in Russia for lagging regions is that the system rewards innovation and genuine decentralized initiatives as opposed to passive obedience. World

experience provides a clear warning that highly centralized attempts by the central government to choose future points of growth or design its own detailed programs for implementation at the regional level are likely doomed to failure.

### Recent Trends in Regional Development in Russia

9. Chapter One investigates trends in regional development based on output data, primarily for industrial production, which were available through 2006, with a goal of distinguishing between the periods of 1999-2003 and 2004-2006 (The analysis in chapter two employs data on gross regional product (GRP), which were available only through 2004.). The motivation for distinguishing between 1999-2003 and 2004-2006 is the perception that factors behind economic growth in Russia were quite different during these two subperiods. The former period witnessed a rapid economic recovery and import-substitution-based industrial expansion in the context of a weak ruble, cheap labor, and substantial excess capacity. A slowdown in growth in 2001-2002 can be related to a weakening of all of these factors along with economic recovery. In more recent years, economic growth received a strong boost from increases in export prices, most particularly oil and gas, and from booming domestic demand. The benefits of these latter factors are distributed far more unequally across Russian regions than the factors that supported the earlier broad-based growth. This is visible in industrial production data by region for these two sub-periods. The standard deviation in regional growth in Russia almost doubled in the latter time period (Figures A1 and A2). The examination of output data on retail trade volume yield very similar conclusions.

Figure A1

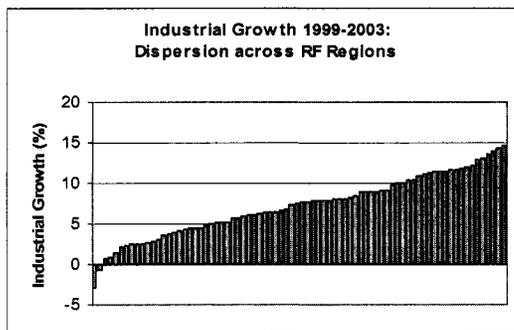
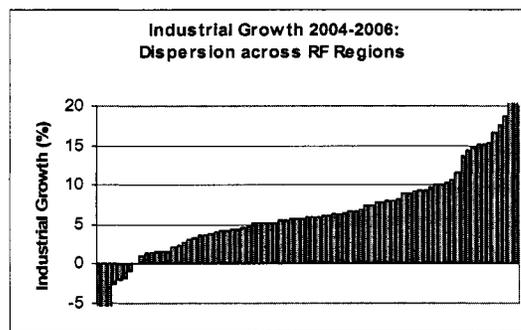


Figure A2



10. The greater dispersion in regional industrial growth in Russia in recent years can also be associated with a growing gap between most of Western Russia (The Central, North-Western, and Southern Federal Okrugs) and the more Eastern part of the country (Urals, Siberia, Far East). While industrial growth slowed for Russia as a whole during 2004-2006, it actually accelerated in much of the Western part of the country.

Figure A3

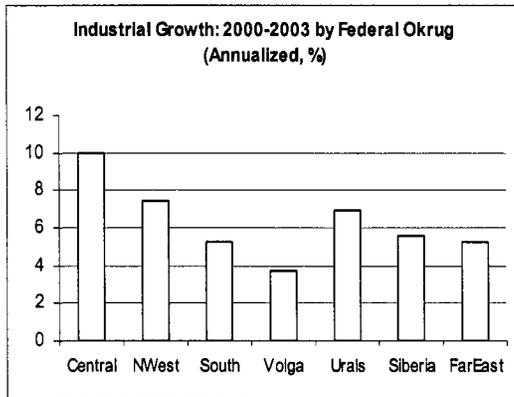
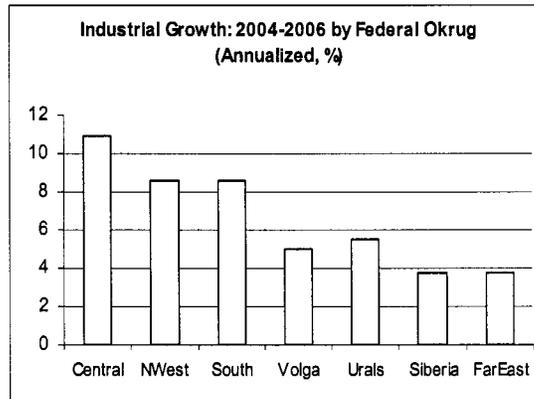


Figure A4



11. The greater dispersion in Russian regional industrial growth favoring Western regions echoes concerns often expressed by specialists about growing regional inequality. However, a formal analysis of convergence gives no evidence that inequality among regions has increased, on average, during either the 2000-2003 or 2004-2006 periods. Despite a higher variance in regional growth, and a greater differentiation between the Eastern and Western parts of the country, it does not appear to be the case, in general, that poorer regions got poorer and richer regions got richer. In fact, many of the Western regions that achieved higher industrial growth in the 2004-2006 period have lower-than-median average income (GRP per capita), while many of the Eastern regions that achieved lower-than-average growth in the 2004-2006 have significant resource wealth and higher-than-average GRP per capita. A significant pro-poor component of Russian regional growth patterns is suggested by Figures A5 and A6, which plot Russian regions according to initial GRP per capita (in log) and industrial growth for 1999-2003 and 2004-2006. Graphs that use retail trade or other service growth in place of industrial production look similar.

Figure A5

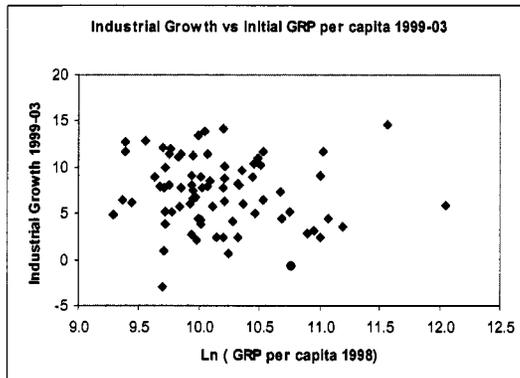
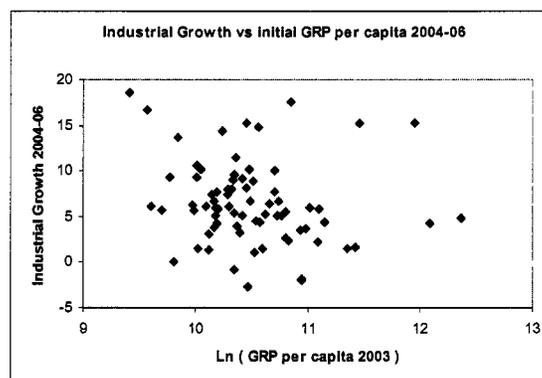


Figure A6



12. An examination of the recent data also suggests growing agglomeration effects in the Western part of the country in the form of spillover effects from proximity to other rapidly growing regions. The geographical correlation of growth is most likely increasing. This is particularly visible in the Central Federal Okrug, where the number of relatively poor regions

achieving above-average growth increased in the 2004-2006 period relative to 1999-2003 jumped from 6 to 9. The question of regional spillover effects is examined in detailed in Chapter 2.

13. To summarize the results of Chapter 1:

- While the pace of average industrial growth has fallen, the dispersion of growth among Russian regions has increased.
- Growth has become increasingly concentrated in the Western part of Russia, particularly in the Central, North Western, and Southern Okrugs. In fact, industrial growth has actually accelerated in this part of Russia, in contrast to the trend for the country as a whole.
- Despite the greater dispersion in growth during the more recent period of 2004-2006, output data do not suggest any shift toward a trend of divergence among regions. This was due mostly to rapid growth in a number of regions in the Central Okrug with lower than average per capita GRP, as well as slower growth in a number of resource-rich regions in the East with relatively high per capita GRP.
- The number of regions experiencing higher-than-average growth in the Central Okrug is increasing, consistent with the possible strengthening of agglomeration (spillover) effects. Industrial and service output growth appears more regionally concentrated in 2004-2006 than in 1999-2003.

14. Chapter 2 explores the questions of sources of regional growth and agglomeration effects in more detail on the basis of data on gross regional product (GRP) per capita corrected for regional price differentials. It employs a spatial econometrics approach that has been used in recent research for the analysis of regional spillover effects on economic growth in the European Union. This variable picks up geographically concentrated effects on economic growth that are not captured by other specified exogenous variables. The focus of Chapter 2 is on the period of economic growth from 1999-2004, as this is the period for which data on GRP were available.

15. The analysis reveals a strong significance of regional spillover effects in explaining regional GRP growth. Regions in close proximity to rapidly growing regions receive a significant boost in their growth. This can be due to both the advantages of proximity to booming markets as well as direct spillovers from the expansion of growth agglomerations. The estimated regional spillover effects are not quite as large for Russia as comparable measures recently made for the European Union. However, the analysis of Chapter 1 suggests that these effects may have become stronger in recent years. Figure A3 below illustrates the size of the estimated part of annual regional growth that is induced from growth in regions in geographic proximity, i.e. it is the component of regional growth that can be explained by growth in other regions. As indicated on the map, these effects are generally much stronger in the European part of the country, where one percent of economic growth in other regions weighted for geographical proximity produces an estimated 0.3 to 0.5 percent growth in a given region.

Figure A3: Spatially Determined Growth in the Russian Federation



16. The model in Chapter 3 also investigates the contributions of a number of factors to regional growth in the Russian Federation. The results are summarized below:

Initial Income and Convergence: Both with and without controlling for other variables, the level of initial income in a region (GRP per capita) appears to have a negative and statistically significant effect on growth. This provides evidence for both absolute convergence (poorer regions are catching up on average) and conditional convergence (the relationship remains significant, and becomes even stronger, when controlling for the investment rate and other variables). This is consistent with the conclusions reached in Chapter 1.

Investment Rate: As might be predicted, the investment rate (investment as a share of GRP) has a positive and statistically significant effect on growth, suggesting that regions which invest a higher share of their income experience faster growth.

Urban Agglomeration: The size (population) of the main city in a region is found to be positively related to growth and significant in a wide variety of specifications. This is robust to the removal of Moscow and Saint Petersburg from the sample. Shares of the regional population living in larger cities also appear to be positively related to growth, although their significance is more variable over different specifications. However, the share of the population living in the single largest city of the region did not appear significantly related to growth statistics.

Human Capital: The share of population with higher education appears to have a positive and significant effect on growth, although this still statistically significant relationship weakens somewhat when Moscow and Saint Petersburg are dropped from the sample.

Infrastructure: Measures related to infrastructure include stock variables in absolute and per capita terms (rail density, road density, length of roads and rail, and phone lines) and quality variables (the share of hard roads and share of improved hard roads). These measures of infrastructure intensity did not generally correlate well with regional growth. However, this does not imply that infrastructure is not important for regional growth, as infrastructure intensity is often not a very good proxy for infrastructure constraints, i.e. a lot of infrastructure does not mean that infrastructure constraints are not binding, and visa-versa.

Investment Climate: Indicators of the investment climate based on an OPORA Survey of small businesses that is carried out in the majority of Russian regions did not emerge as significant in the conducted statistical estimations as an explanatory factor for either growth or investment. Part of the problem may concern the fact that these data were only available for 2006, and may be a very inaccurate proxy for business climate constraints at the regional level during 1999-2004. However, a regional investment risk index compiled by *Expert* did show a positive relationship to regional growth in some specifications.

Ethnic fragmentation: The index of ethnic fragmentation (number and share in the population of ethnic minorities) can be related to regional growth in a negative and statistically significant manner. This effect is robust to the inclusion of human capital in the specification and to the dropping of federal cities and southern republics from the sample. However, ethnic diversity tends to be correlated with other variables, such as resource endowments, which makes the interpretation of this result somewhat difficult.

Fuel Endowment: A dummy variable was used for those regions with a fuel share of GDP exceeding 14 percent. For Russian regions, this cut-off point provides a very convenient bifurcation of hydrocarbon-oriented and other territories. Only a few regions are close to this 14 percent border line. This fuel endowment dummy variable has a positive and statistically significant effect on growth in the 1999-2004 period, particularly in an equation that corrects for urban agglomeration and human capital. On the other hand, Chapter 1 suggests that this dynamic may have weakened in more recent years.

Year-Round Port: The presence of a year-round port has a strong positive and statistically significant effect on regional growth. This effect is robust to various specifications that include or exclude investment, human capital, and other determinants of growth.

Climate (Average Temperature, Permafrost): Of a number of climate variables explored, a dummy variable used for regions with no permafrost (warmer regions) appears to have a positive and statistically significant relationship with growth.

### **Rapid Regional Development in Russia: the Cases of Rostov and Tver**

17. Chapter 3 turns to questions pertaining to the business climate and potential constraints to sustaining growth in two relatively poor Russian regions that have been experiencing rapid growth in recent years. Rostov and Tver are part of the story of the strong pro-poor element in Russian regional growth examined in the previous two chapters. Rostov has been a center of growth in the South of Russia since 1999, whereas growth in Tver has accelerated only recently with the spread of the Moscow and Saint Petersburg agglomerations. A regional level enterprise survey conducted in both regions offers information on the perceptions and activities of

entrepreneurs. For comparative purposes, the sample of 535 firms in Rostov and 421 firms in Tver was conducted according to the same methodology as the national Business Enterprise Environment Performance Survey (BEEPS) that is conducted in Eastern Europe and the CIS every three years since 1999. This survey gives proportional representation to different sectors and geographical areas, although small businesses of less than 50 employees comprise a large share of the sample.

18. The surveys reveal some very interesting similarities, as well as differences, between the Tver and Rostov economies. Rostov has a particularly strong environment for small business and entrepreneurship, reflecting in part cultural traditions that were not entirely suppressed in the Soviet period. Larger businesses in the region often work in close partnership with authorities. In Tver, on average, larger businesses function more independently. For somewhat different reasons, both regions are currently facing tensions related to the opening of their regional economies to outside investment, both from abroad and from the growing Moscow-Saint Petersburg agglomerations. In Rostov, perceptions of close relations between incumbent firms and regional/local authorities may have limited the size of outside investment relative to neighboring Krasnodar and other regions. In Tver, the booming economy of Moscow and Moscow oblast, together with a new leadership in the region that has placed a priority on attracting outside capital, have increased outside investor interest in the region considerably. Some of the effects of this rapid process have been very disruptive for established local business, in particular the very rapid increase in property values and rentals. In both cases, sustaining rapid growth will depend on successfully navigating a difficult transition to a more open regional economy focused increasingly on all-Russian and export markets:

- The survey is consistent with the picture of Rostov and Tver as growing regions largely hospitable to expanding business activities. Perceptions of barriers to business in these regions are consistent with, and somewhat more favorable, than those documented for Russia as a whole in 2005. Perceptions of changes in the business climate in recent years were not very favorable. Part of the reason for this may be the increased competitive pressures that both regions have faced in recent years. The pessimism in both regions about progress in the development of formal market institutions (the court system, competition policy, corruption) is somewhat disturbing, although it follows the general pattern in recent business surveys for Russia.
- In the Tver region, perceptions of the business climate are fairly uniform across firms of different size. In Rostov, by contrast, smaller firms give significantly more favorable assessments of the business climate than do larger firms. Medium and larger-sized firms in Rostov are much more concerned about business climate constraints than are their counterparts in Tver. Interestingly enough, both Tver and Rostov entrepreneurs complain about excessive paper work more than any other administrative barrier to business, including various inspections. Rostov entrepreneurs generally rank the business climate in their region favorably in comparison to surrounding regions, whereas Tver firms do not.
- Although Rostov and Tver share the skepticism and mistrust of their counterparts in other regions about the court system, an impressive number of entrepreneurs in both regions do appeal to the courts for the settlement of many disputes. The skepticism becomes greater for overturning violations of laws or norms by government officials, particularly in Rostov. Tver entrepreneurs are notably more optimistic in this regard. In general, Rostov and Tver entrepreneurs have very different perceptions of the influence of various levels of government on economic activity, with the balance of influence perceived as positive in Rostov and negative in Tver.

- The results of the Rostov and Tver surveys give strong additional evidence of a positive relationship between competition (competitive pressures), on the one hand, and modernization (technical progress) and business expansion, on the other. Those firms that claim to face significant competitive pressures from firms outside of the region engage in significantly more activities associated with modernization, restructuring, and investment.

19. How should these results be interpreted for assessing the present and future prospects for the development of the Rostov and Tver regions? Both of these regions face social and economic tensions associated with rising outside competition. Despite the short-run costs of policies aimed at facilitating the integration of regional with larger markets, the survey provides direct evidence of potential benefits. It appears that many firms in both regions that offers the most hope for sustaining rapid growth (those actively engaged in modernization, restructuring, and output expansion) are already competing on all Russian or international markets. Rostov and Tver will need to manage the short-run transition costs, which are particularly notable in Tver, but heavy-handed regional-level protectionist policies would most likely end up rewarding less promising firms and hindering the activities of the most promising.

20. The survey is also consistent with the general picture of Rostov as a region where informal relations can often be of more importance than explicit institutions. At the same time that many entrepreneurs note improvements in relations with authorities, there is a widespread perception of deterioration during 2005-2006 of precisely those variables that relate to the functioning of explicit institutions: unfair competitive practices, violations of contractual agreements, criminality, corruption, and the court system. Attitudes are particularly pessimistic in Rostov about possibility of overturning unfair decisions or violations made by state officials. The sustainability of Rostov's rapid growth into the medium term will most likely depend on the strengthening of explicit (impersonal) institutions relative to informal relations, which would make the region more attractive to outside investment and fair competition. Rostov's recent record in economic growth has been so far been much more impressive than its record in investment growth. This cannot be sustained indefinitely, and outside capital is needed.

21. Although the situation in Tver oblast looks to be somewhat different to that described above for Rostov, the future challenges are somewhat similar. An even larger share of firms in Tver look to be oriented only to local markets, and many operate under very limited competitive pressures. Furthermore, in sharp contrast to Rostov, Tver entrepreneurs consider the business climate in their region to be generally worse than in surrounding regions. This difference could be due as much to being surrounded by regions with better business climates as opposed to a worse business climate in Tver than in Rostov. Yet this is part of Tver's dilemma. They are in a very advantageous geographical position for participating in the growing growth agglomeration in central Russia, but so are a number of other regions that are in direct competition with Tver for attracting capital and labor. Furthermore, many of these other regions got a head start on Tver by attracting substantial outside capital to their regions before 2005. This has made Tver's recent transition more radical and more disruptive to local interests than in a number of other regions in central Russia. The political divisions within Tver oblast, and the lack of a single omnipotent source of state power like in Rostov, appears to have made even larger businesses in the region more independent, and more willing to rely on the courts and other explicit institutions than in Rostov. Tver firms were much less favorable in their assessments of the influence of government on their business, although these answers are difficult to interpret in the current period of transition when many firms believe that role of regional and local authorities should be protecting them from rising rentals or outside investors.

22. The rapidly-growing regions of Rostov and Tver unquestionably have strong future potential. So far, both regions have grown in a largely self-contained manner in response to rising demand in the region and neighboring regions. The formation of agglomerations in the southern and central parts of Russia has reinforced this growth. Yet both regions have yet to make the transition to developing highly competitive niches on all-Russian or world markets. The survey provides evidence suggesting that unleashing the potential of Rostov and Tver in that direction will depend on promoting competition and providing a business climate that is hospitable to market entry and investment. The cases of Rostov and Tver also provide information on potential obstacles to sustaining rapid development in the growth agglomeration areas of the Russian Federation. In particular, they confirm labor supply and competition, including the openness of regional markets, as critical issues.

### **Confronting the Challenges of Regional Development in the Russian Federation**

23. Chapter 4 examines the question of a national regional strategy in the light of the conclusions of the previous chapters and international experience. Such a strategy should generally balance a number of important economic and political priorities, including (a) the facilitation of growth points and agglomerations for increasing national economic growth, competitiveness, and living standards, (b) supporting minimal social standards in poorer areas of the country, (c) providing opportunities for lagging regions to realize their economic potential, (d) increasing opportunities for migration from regions with poor economic prospects, and (e) promoting economic development in regions of particular political priority. National policies aimed at improving the overall business climate, supplying key public goods, and improving education have important general implications for realizing all of these goals. In addition, the policy mix should generally include:

- ***Spatial policies.*** Policies to defend the unified market and facilitate the mobility of labor and capital to areas of agglomeration and greater economic promise.
- ***Interconnecting policies.*** Infrastructure policies in areas such as transportation and telecommunications can link regional markets to the benefit of economic development.
- ***(Social) equalization policies.*** Policies to ensure the provision of minimal social services and support in poorer regions.
- ***Regional (development) policies.*** Policies aimed at facilitating growth (productivity) in specific regions.
- ***Education policies.*** Beyond the guarantee of minimal standards through equalization policies, additional investment (and reform) in education can increase overall economic opportunities for the population.

#### ***Spatial Policies***

24. Both the inherited Soviet legacy and the spatial nature of recent growth in Russia imply that the attraction of people and capital to areas of agglomeration and greater economic promise is perhaps the single most critical regional issue for the successful rapid development of the country. Despite substantial internal and external migration to the Western regions of Russia, and important progress in the developing of markets to facilitate the movement of capital, Russia nevertheless faces some significant challenges in sustaining and fostering growth agglomerations. Outside of Moscow and Saint Petersburg, Russia still lacks large cities by international standards,

and migration flows may not be adequate to compensate for an aging and declining population. Expert opinions suggest that the resettlement process from East to West in Russia has been rather slow, given the high differentials in living standards between different areas in the Russian Federation. Despite the relaxation of urban registration requirements and the presence of much greater regional inequality, the pace of internal migration has not increased significantly in the post-Soviet period. Evidence exists that this may be partly due to poverty traps; many poor citizens in remote regions lack the resources to move to more promising areas. The current pace of foreign migration, even accounting for the large number of informal migrants, would not be sufficient to offset substantial population declines in most of the Western part of Russia over the medium term. The surveys in Tver and Rostov suggest growing constraints on growth from tightness in the labor market.

25. In every country, large (voluntary) movements of people take time, and can be associated with substantial social and psychological stress. Nevertheless, the pace of internal migration in Russia appears to be constrained by problems in housing and labor markets. The housing market is a particular constraint. The privatization process transferred the majority of housing to occupants, which became a windfall for those living in areas of economic promise, but has left many other citizens in remote regions without the means to afford increasingly expensive housing in areas of economic booms. The booming cities of Moscow and Saint Petersburg have faced serious challenges in increasing housing and other infrastructure in pace with economic growth. While the Russian labor market exhibits a significant amount of (largely informal) flexibility, some experts suggest that important rigidities nevertheless remain that require attention. In particular, even after the adoption of new and more liberal Labor Code, there appear to remain excessive costs and hassles for employers associated with releasing workers, which find reflection in a common cautious attitude toward hiring. Important economic policies for the resolution of the above issues include priority infrastructure projects for growth points to accommodate inflows of migrants (including affordable housing), labor market policies, and direct programs to assist (potential) migrants.

26. Another important policy direction concerns the enforcement of the unified economic space of the Russian Federation (competition policy) to combat regional protectionism that can limit competition and restrict the free movement of capital and labor to the detriment of sustaining rapid growth. The cases of Rostov and Tver, as examined in Chapter 3, are instructive of the political and social pressures surrounding the opening up of Russian regions, many of which have been very internally oriented in the past. Those regions also provide evidence that competitive pressures and competition on all-Russian or foreign markets can be associated with more technical progress and investment at the firm level.

27. Like a number of other countries that attract a substantial number of foreign migrants, Russia must weight difficult social, political, and economic issues while adopting policies in this area. Considering Russia's demographic situation, the country is quite fortunate that its relatively high standard of living in the greater region makes it a magnet for migrants within the CIS. An aging and shrinking population makes Russia comparable to the countries of Western Europe in this regard: there is a strong need for migrants to augment the labor force, but social tensions place limits on policies to liberalize the (formal) migration regime. In this regard, it should be noted that the balance of net advantages to Russia from external migrants may be greater than those in Western European countries for several reasons: (a) the demographic crisis (aging and population decline) is greater in Russia than in Western Europe, and the need to sustain rapid growth is also more pressing, (b) Russia has a large pool of potential migrants with a fluent command of Russian and other similar (post-Soviet) social attributes that allow for a more harmonious assimilation to work and life in Russia, and (c) Russia does not have an expensive

and generous social safety net for unemployed migrants (a primary source of tension surrounding migration in the West).

28. A World Bank Policy Note of 2005 outlines important directions for improving migration policy, in particular the liberalization of the official regime along with a crackdown on illegal migration. This policy mix would have the potential of attracting a migrant pool with better skill profiles for Russia, and of alleviating social tensions that currently exist around illegal migrants. Russia is indeed following a policy consistent with these two directions, although there is a risk is that the official regime could remain sufficiently restrictive to negate the net benefits from a crackdown on illegal migrants, i.e. it is not in Russia's economic interest to adopt a regime that would cause a decline in net inflows of migrants, especially over the medium term when the demographic crisis in the country will reach its apex.

### **Interconnecting Policies**

29. Infrastructure has long been recognized as a key factor in regional and economic development, and represents a primary channel through which the government can promote competitiveness and productivity growth. Improvements in infrastructure may not only improve the development prospects of a given regions, but may have benefits for multiple regions, including critical linkages in markets and the reduction of transportation costs.

30. On the other hand, the results of Chapter 2 suggest that infrastructure density, in and of itself, may not contribute much to growth at the regional level. The 2009 World Development Report also emphasizes that, in world experience, a number of expensive and ambitious infrastructure projects have had little impact in practice. It is therefore critical that decisions on infrastructural investments are made on the basis of a careful assessment of the overall development impact of each specific project. This assessment should focus on the degree to which the absence of key infrastructure is currently a genuine constraint on growth or the integration of markets.

### ***(Social) Equalization Policies***

31. Measures to ensure minimal social (and living) standards in poorer regions properly belong to the category of social policy, as opposed policies specifically targeting to regional development. Yet the coordination of these policies with a national strategy for regional development would be important. Equalization policies aimed at supporting the social sphere are often confused in Russian debates with policies aimed at equalizing development or growth in different regions. Such latter measures belong to category of regional (development) policies discussed below. Confusion between these two types of equalization policies may have been a primary source of contention in the discussion of the various drafts of the National Regional Strategy in Russia during 2005-2007. While a regional strategy focused on promoting growth points and agglomerations is indeed inconsistent with alternative policies aimed at equalizing regional development, the need for social equalization policies could become even greater under the former strategy. Given limitations in the speed of migration, promoting unbalanced growth could actually complicate the challenge of addressing poverty in lagging regions. Given the fact that basic social expenditures are largely the responsibility of regional and local governments in Russia, equalization transfers have major significance for maintaining minimal standards in lagging regions.

32. The actual levels and stability of equalization transfers do have important direct implications for regional development, however. If the goal is to promote migration to growth

points, benefits should not be set at levels high enough to discourage out migration. If the goal is to encourage initiatives aimed at igniting regional growth and development, then benefits should not be “soft” in the sense of adjusting quickly to reallocate funds from more successful to less successful regions. The equalization formula was developed in Russia with the aim of satisfying both of these criteria, although the additional allocation of transfers and federal loans outside of the formula-based equalization fund should also be scrutinized from this point of view.

### ***Regional Development Policies***

33. State policies aimed at igniting or promoting economic development in specific, usually poorer, regions represent one of the most controversial areas of economic policy. Any country considering embarking on this path would do well to study the lessons of a very mixed, and predominantly disappointing, history. The reasons for past failures are numerous, including limited information in the government about true regional economic potential, distortions of the allocation of factors away from true comparative advantage, the adverse effect of subsidies on economic incentives, and the inevitable politicization of decisions about which regions to support. A number of experts argue that investments in people (education, health, migration) can be a more effective tool for addressing social distress in lagging regions.

34. Nevertheless, many larger countries with regional development problems have pressed on with regional policy, although the lessons of the past have supported a consensus around a set of new principles, summarized below, that are strikingly different than in the past. Arguments in favor of a regional policy for Russia could cite the following considerations:

- Some areas of the country (the Far East, the South, border areas) are prioritized for economic development for purely political as well as economic reasons. Given the constraints of whatever political decisions are made in this regard, Russia should pursue the most economically efficient means for realizing the implied development priorities.
- Russia is in need of strong urban agglomerations outside of Moscow and Saint Petersburg, and alternative cities face demographic challenges for attracting and accommodating sufficient migrants. Under certain circumstances, state interventions (social infrastructure, for example) might help support such agglomerations.
- At this point in transition, a significant amount of uncertainty exists about the economic potential of many Russian regions. This is arguably greater than the uncertainty that exists in countries where the initial allocation of capital and settlements followed market forces. Increasing returns associated with agglomeration economies can prevent regions that currently lack such agglomerations to compete effectively with other regions and realize their potential. Thus, it may be expedient to seek and promote mechanisms for revealing and realizing this hidden potential where it exists.
- The substantial social and economic costs of massive internal migration increase the opportunity costs in Russia of not revealing hidden potential in lagging regions. Although many settlements in Russia may have not been established under market forces alone, that in itself is not proof that they should be dismantled. Given that people and capital already exist in these places, finding successful development paths in at least some of them could be of considerable value to Russia.

35. The extent to which Russia adopts regional development policies to address these issues will reflect a difficult political choice with significant pros and cons. To the degree that Russia

does decide to pursue policies of this nature, it would be well advised to base its approach on the principles of the so-called new regional policy, which incorporate important lessons from past experience. The example of the European Union (EU) may provide the outline of a good basic model for policy design in Russia, although the focus in the EU is exclusively on lagging regions. Perhaps the most important distinctions of the new approach to regional policy followed in the EU and elsewhere are:

- The overall goal of new regional policy is to increase productivity, not provide subsidies to compensate for lower productivity, as was common in the past.
- Under the new regional policy, government provides local public goods (infrastructure, regulation, coordination) as opposed to financial subsidies to economic organizations.
- The new regional policy supports initiatives coming from regional or local levels, consistent with national priorities, through a competitive process. The goal is reveal information about promising projects and to coordinate decision-making around their realization.
- The new regional policy monitors results, cuts off unsuccessful projects before social losses accumulate, and re-allocates resources in the direction of successes.

### ***Education Policies***

36. While social (equalization) policies can have a direct impact on the quality of education, a number of countries have adopted additional programs aimed at boosting educational opportunities in lagging regions. Although these policies can be regionally oriented, this represents investment in people rather than places. A better educated and qualified population will generally have better opportunities not only for employment within a given region, but for migration to other more promising regions. Ireland and India are among countries that many observers believe had particularly successful national education programs.

37. Most important for the success of such education policies is that the training provided is linked directly to the labor market and the needs of the economy. The common absence of such a strong link has been a particular problem in Russia during the transition period, and is the major target of education reform in the country.

### **A National Regional Strategy for Russia**

38. The above considerations suggest some central elements of a constructive national regional strategy for Russia. Of course, the particular chosen mix of these elements will require the consideration of complicated tradeoffs.

- Sustaining rapid growth and welfare improvements in Russia depends critically on the continued flow of capital and migrants to areas of high economic promise and agglomeration. These flows appear to be insufficient and imperfectly regulated at the present time. Thus, additional government policies to facilitate these flows could be important in areas such as migration policy, housing and social infrastructure, labor market policies, and competition policy.
- Maintaining strong and stable social equalization transfers will be a means of sustaining minimal living and service standards in lagging regions. These transfers

should not be so high or unstable as to discourage either out migration from these regions, or the active pursuit by local authorities and entrepreneurs of a successful development strategy. This support may decline over time in harmony with other policies to realize out migration or regional development initiatives.

- Given the extent of informational and social problems associated with settlements in lagging regions, it is critical that local authorities and entrepreneurs are given incentives and opportunities to realize their own initiatives aimed at improving their situation. Furthermore, Russia could make a political choice to support these initiatives consistent with national objectives through federal programs based on the principles of new regional policy. Given the current nature of agglomeration effects (increasing returns) in Russia today, regions may not succeed in realizing their potential through market forces alone.
- Key infrastructural investments to improve market linkages, facilitate factor mobility, and improve the prospects for regions with genuine economic promise.

39. These considerations are broadly consistent with many of the directions that Russia has been moving in recent years. This includes the drafting of a comprehensive National Regional Strategy, the solicitation of regional strategies in harmony with national priorities, and the allocation of a number of national instruments to regions on a competitive basis, including the location of special economic zones and IT parks and infrastructural investments from the Investment Fund. New developments in territorial planning place a strong emphasis on fostering a broad dialog between different levels of government and local business. Special national projects have been introduced for the priority regions of the South and the Far East. Other measures have targeted migration, including the provision of amnesty to a large number of illegal migrants. Equalization transfers are concentrated in poorer regions by formula that limits the adjustment of transfers to current economic conditions. Education reform has also been prioritized. Recent policy declarations on regional policy prioritize infrastructure, human capital, and other productivity-enhancing investments over subsidies to low productivity firms. However, Russia has not yet adopted a strategy for regional development that would allow it to employ these and other policy instruments in a coordinated and consistent way.

40. The important goal of giving incentives and opportunities to lagging regions for realizing their potential implies a particular challenge for Russia. As stressed above, the inherently decentralized nature of information on regional potential implies that success in this area will depend greatly on genuine decentralized initiatives for increasing productivity. While agglomeration points are key to regional growth, an attempt by the central government itself to choose future points of growth and design its own detailed regional programs would likely be highly unsuccessful. Indeed, experts attribute some of the failures of regional policy in the past precisely to top-down technocratic planning and a lack of local responsibility.

41. Since 2000, the Moscow has assimilated considerable power relative to the regions. Perhaps the most important decision in this regard was the elimination of direct gubernatorial elections in 2004 in favor of the presidential appointment of regional governors. In this context, the balance of political priorities of the regional leadership has shifted in the direction of pleasing superiors in Moscow relative to constituents within the region. On the one hand, the new willingness of the regions to cooperate strongly with Moscow offers better opportunities for coordination and cooperation in the realization of regional initiatives. On the other hand, too strong a hand of the center can also breed risk aversion among local and regional officials for pushing ahead with their own initiatives, or eliciting the initiatives of local entrepreneurs. The exercise in drafting regional growth strategies in Russia was informative from this point of view.

Some regions took this process very seriously and were deeply engaged. Other regions did little more than go through the motions as a means of complying with the demands of Moscow. A fundamental principle for the success of a regional development strategy in Russia for lagging regions is that the system rewards innovation and genuine decentralized initiatives as opposed to passive obedience.

42. The particular problems of regional development and inherited spatial imbalances make economic transition in the Russian Federation an inevitably long and complicated process. The speed with which Russia has been developing modern economic institutions in recent years offers hope that the government will also succeed in managing the difficult spatial transformation of the country in the decades ahead.

# 1. REGIONAL ECONOMIC GROWTH IN RUSSIA: AN ASSESSMENT OF RECENT TRENDS<sup>1</sup>

## A. INTRODUCTION

1.1 Vast geographic and cultural diversity gives a unique dimension of complexity to economic and political transformation in the Russian Federation. The rich natural endowments of the country are distributed highly unevenly among Russian Subjects of the Federation (regions). Seventy years of Soviet planning left a geographic distribution of settlements and capital that is often poorly related to natural economic comparative advantage. This includes significant settlements and capital in extremely cold areas, where economic efficiency is inherently low.<sup>2</sup>

1.2 The size and diversity of the Russian Federation also presents major challenges in governance and central control. The weakening of central power in the Soviet Union during the Gorbachev era of the late 1980s can be associated with a corresponding rise in regional economic power, which increased even further to in the early 1990s. Recent years have witnessed a major consolidation of power at the federal level. Nevertheless, the size and diversity of Russia imply that a large number of important decisions will continue to be made (formally or informally) at lower levels of government.

1.3 Regional development during the transition period in Russia can be broken up roughly into four distinct periods:

- 1991-1994: *Economic decline and a major increase in regional inequality.* The rapid introduction of markets and opening of the economy to foreign competition represented a huge shock to manufacturing and other tradable sectors of the economy. The general sharp decline in economic activity was distributed highly unevenly across the Russian Federation. The weakness of the federal government also hindered the adoption of measures to counteract widening inequalities. Regions endowed with oil, gas, and other natural resources fared relatively well, whereas regions concentrating in industrial manufactured goods generally experienced sharp declines and social distress.
- 1995-1998: *Demonetization and crisis.* Relations between the federal government and the regions became codified and somewhat more uniform in the latter 1990s. State subsidies in the form of directed credits were largely discontinued which fed into payment problems for a large share of Russian enterprises, and the rise of the so-called “virtual economy.” An economic boom in Moscow in 1996-1997, fueled by huge short-term capital inflows to the government bond market, stood in sharp

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<sup>1</sup> Some preliminary results in the chapter were published as “Russian Regional Growth and Agglomeration Effects” as Part 2 of World Bank *Russian Economic Report* #14, 2007.

<sup>2</sup> On this topic, see Gaddy and Hill (2003).

contrast to the depressed economic situation in most regions. The reversal of short-term capital flows in 1998 generated a general financial crisis.

- 1998-2003: *Broad-based growth and trend toward regional equality.* The sharp depreciation of the Russian ruble, combined with tight financial constraints imposed by the 1998 crisis, provided both opportunities and incentives for economic growth and restructuring. The growth in this period was industry-led, and largely through import substitution. Many of the most depressed industrial regions with the largest excess capacity exhibited exceptionally high growth rates. The consolidation of power at the federal level also helped to counteract the strong former tendencies toward regional inequality. Changes in resource taxes and the federal transfer formula had a progressive effect in this regard.
- 2004-2007: *Accelerated and more regionally-differentiated growth.* By 2002, economic growth had slowed considerably in the face of the strong real appreciation of the ruble, growing capacity constraints, and years of low fixed capital investment. But the sharp increases in oil, gas, and other export prices provided a major stimulus to domestic demand, which has been the primary catalyst for growth in recent years. Changes in sharing rules ensured that the majority of revenues from exceptionally high oil prices accrued to the federal budget (and Stabilization Fund).

1.4 This chapter examines changes in the patterns of growth across the regions of the Russian Federation in recent years by contrasting the latter two subperiods listed above, primarily on the basis of data on industrial production and other output (See Box 1.1).<sup>3</sup> This analysis yields a number of interesting conclusions. Data suggest increasing differentiation in growth between Russian regions in the more recent period, in contrast to 1998-2003. Nevertheless, it does not appear that a trend toward divergence (i.e. greater inequality) in per capita regional output has accompanied this greater differentiation. This is due to the fact that a number of poorer regions have exhibited relatively rapid growth and a number of richer regions have grown more sluggishly. Thus, the profile of regional growth in Russia would appear to still have a strong poor-poor component. This stands in contrast to some suggestions in the literature that regional inequality has increased.

1.5 On the other hand, the changing pattern regional growth in Russia does suggest some increasing challenges. A widening disparity has emerged, between most of Western Russia (Central, North Western, and Southern Okrugs) and the rest of the country. Many of the poorer regions that exhibited rapid growth in recent years are located in the Central Okrug. While aggregate industrial growth slowed in Russia during 2002-2007, it actually accelerated in much of the Western part of the country. The relatively poorer regions that have achieved higher-than-average growth in recent years are concentrated in the European part of Russia. For this reason, the sustainability of the current trend toward convergence is questionable. As the West becomes richer relative to the East, regional disparities in Russia could become increasingly important.

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<sup>3</sup> Chapter 3 provides a more detailed look at the factors of regional growth for the entire period of 1998-2004.

**Box 1.1: A Note on the Data**

Data on GRP were available for this CEM only through 2004. Thus, in order to explore the more recent period, this chapter makes use of industrial production data, as well as data on retail trade, construction, and other market services. Is industrial growth a good proxy of regional growth? The following figure shows that industrial growth and GRP growth are highly correlated for the 1999-2004 period. Furthermore, industry accounts for a significant share of GRP in most regions of Russia. Thus, looking at industrial growth should give us a sense of what is happening to growth at the regional level during the more recent period.



**B. EVOLVING PATTERNS OF REGIONAL GROWTH**

1.6 What has happened to industrial growth across the regions of Russia in recent years? The table below presents some basic statistics. The primary message is that while overall growth has fallen, the dispersion of growth across the regions of Russia has increased considerably.

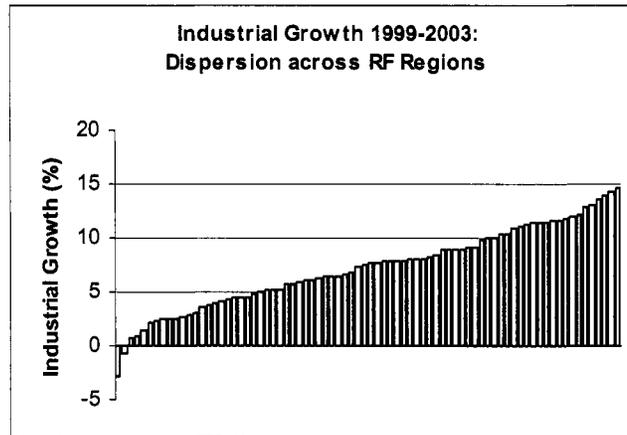
**Table 1.1: Dispersion of Industrial Growth Across Russian Federation (RF) Regions**

	Industrial Growth (%)		
	1999-2003	2004-2006	1999-2006
Russian Federation	6.64	5.24	6.12
Mean across RF Regions	7.22	6.58	7.00
Median across RF Regions	7.65	5.85	6.93
Standard Deviation	3.76	6.13	3.80
Coefficient of Variation	0.52	0.93	0.54

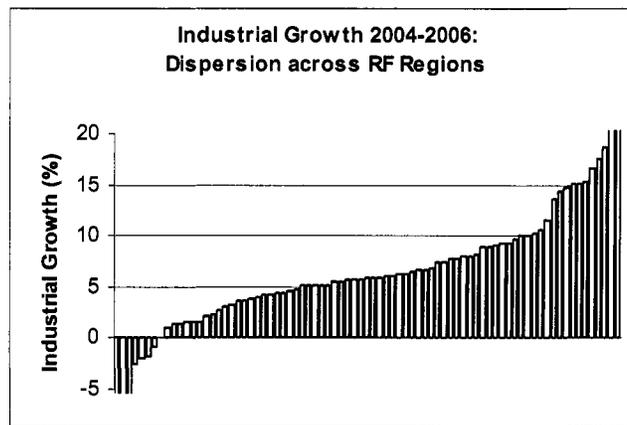
1.7 Russian industrial growth on aggregate fell from 6.6 % during 1999-03 to 5.2 % during 2004-06. The mean rate of industrial growth across the regions of Russia fell by 0.6% points from 7.22% to 6.58%, while the median fell by much more from 7.6 % to 5.8 %. Furthermore, the standard deviation almost doubled from 3.8 % to 6.1 %. As a result, the coefficient of variation of industrial growth increased dramatically after 2003, suggesting that while growth has fallen, the distribution of growth has become more uneven in the more recent period. This is confirmed visually in the figures below, which depict the dispersion of industrial growth across the regions of Russia for the 1999-2003 and 2004-06 periods. In the more recent period, there are

fewer regions with growth above 10%. But average growth among the remaining fast-growing regions is higher. Average growth among slower-growing regions is also lower. Thus, the distribution of industrial growth rates across the regions of the RF has become more skewed during the 2004-06 period, as the pattern of growth has evolved from largely broad-based growth to the concentration of growth in a smaller number of regions.

**Figure 1.1: Industrial Growth, 1999-2003**



**Figure 1.2: Industrial Growth, 2004-2006**



1.8 An important question concerns the impact of changes in the overall pattern of regional growth on the convergence or divergence of income levels across regions. This question is examined below for the 1999-03 and 2004-06 periods.

**C. DO GROWTH PATTERNS IN RUSSIAN REGIONS FAVOR CONVERGENCE OR DIVERGENCE?**

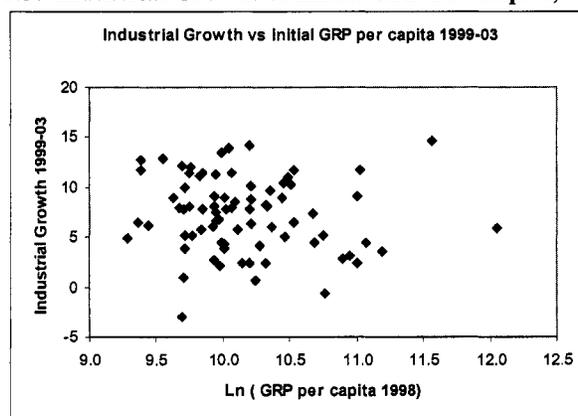
1.9 While growth has become much more uneven across the regions of the Russian Federation, this does not imply, in and of itself, that a process of divergence has set in, i.e. that the gap between richer and poorer regions is increasing. This would be true if richer regions were growing faster than poorer regions. Growing divergence among Russian regions may appear intuitively compelling when comparing poorer regions in Southern or Northern Russia with the some booming and relatively wealthy areas like Moscow and Saint Petersburg. For this reason, it

is a common conjecture in some articles and the popular press. But this intuition can be deceiving for Russia as a whole. The evidence presented below suggests that no overall trend of divergence has emerged among Russian regions, even during more recent years of much more differentiation in regional growth.

1.10 An interesting recent study by the Moscow Independent Institute for Social Policy presents evidence that, on the contrary, regional disparities in GDP have actually increased in recent years.<sup>4</sup> This study takes a different analytical approach than this Country Economic Memorandum. It does not estimate convergence according to differential regional growth, but employs Gini coefficients for the examination of relative GRP per capita over time (with a price correction for differences in prices across regions). The increase in regional inequality according to this measure is most likely due to strong relative price movements that increased the relative current value of GRP in regions with a concentration in resource extraction. Most of these regions already had relatively high GRP per capita. While this is indeed consistent with one interpretation of growing regional inequality, measures of convergence or divergence based on differential regional growth arguably give a clearer picture of the actual development trend, particularly as the vast majority of additional resource income (GRP) due to oil price increases in Russia is taxed away from regions. Measures of regional household income per capita also do not show a notable trend toward divergence in recent years. A forthcoming poverty analysis by the World Bank also shows no increase the coefficient of variation of average regional consumption per capita between 2002-2006, although weighing regions by population would show a slight increase, as the difference in average consumption between the highly populated richer regions of Moscow and Saint Petersburg, on the one hand, and the highly populated poorer regions of the South, on the other, has indeed increased.<sup>5</sup>

1.11 Output data suggest that many regions with lower initial GRP per capita experienced faster industrial growth for both the 1999-03 and 2004-06 periods. The figures below plot Russian regions on the basis of industrial growth and initial GRP per capita (in log) for the 1999-03 and 2004-06 periods, as well as for the entire 1999-06 period.

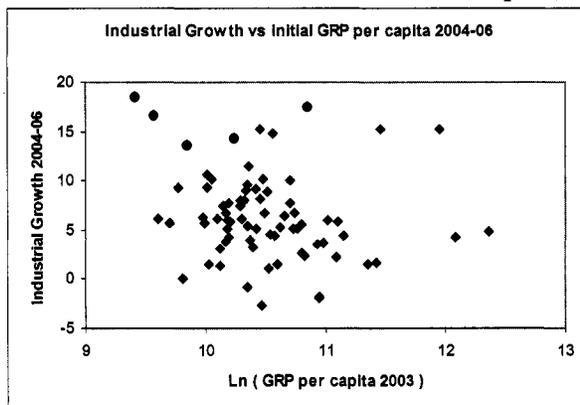
**Figure 1.3: Industrial Growth vs Initial GRP Per Capita, 1999-2003**



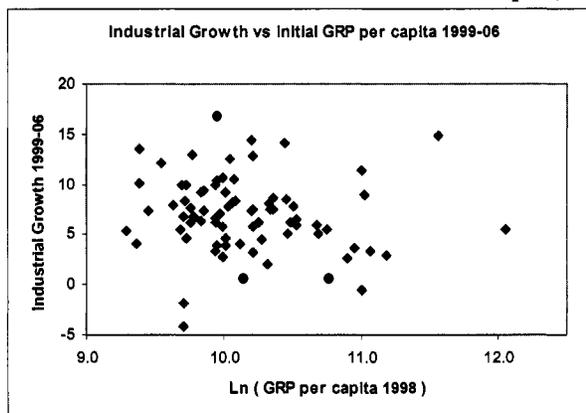
<sup>4</sup> *A Social Atlas of Russian regions: Thematic Overviews* (2008).

<sup>5</sup> *Russian Federation: Promoting Equitable Growth – A Living Standards Assessment* (2008), World Bank, forthcoming.

**Figure 1.4: Industrial Growth vs Initial GRP Per Capital, 2004-2006**



**Figure 1.5: Industrial Growth vs Initial GRP Per Capital, 1999-2006**



1.12 Once we ignore a few outliers,<sup>6</sup> it is possible to decipher a negative relationship between initial GRP per capita and subsequent industrial growth in the figures above for both the 1999-03 and 2004-06 periods. In other words, on average, poorer regions appear to have experienced faster industrial growth.

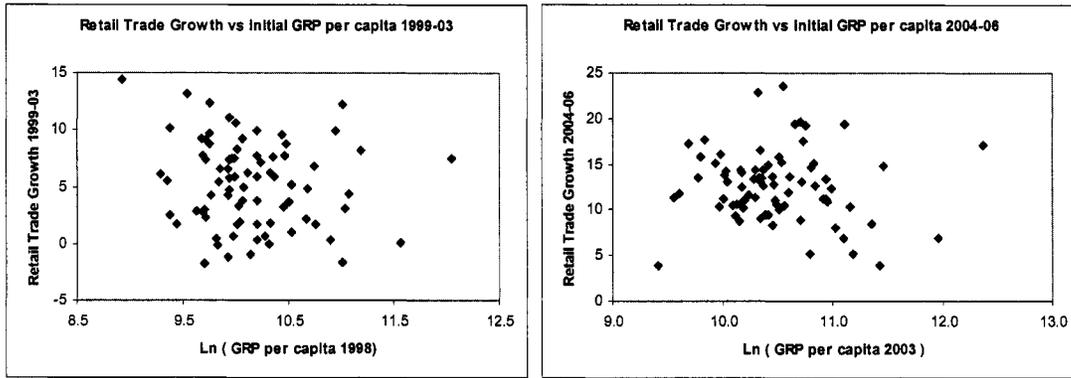
*Retail Trade, Manufacturing, Construction, Other Paid Services*

1.13 Does this negative relationship between initial income and subsequent growth apply to other sectors of the economy? Figures on retail trade also suggest evidence of convergence, particularly during 2004-2006, despite some few notable outlying regions.

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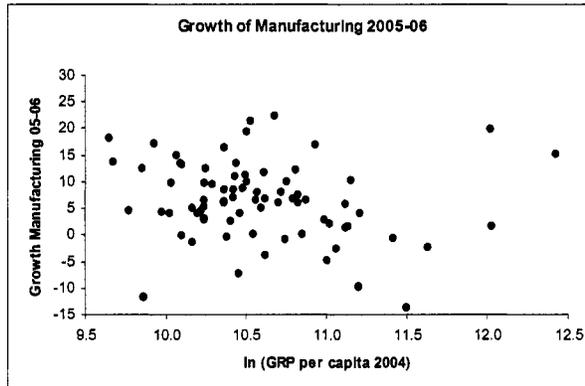
<sup>6</sup> These outliers are Moscow city and Tyumen obl., which have GRP per capita levels far in excess of any other region, and some southern republics which have low GRP per capita and highly volatile growth: Ingush Rep., Kalmyk Rep. Dagestan Rep. Finally, Kaliningrad had unusually high industrial growth of 32% during 2004-06.

**Figure 1.6: Retail Growth vs Initial GRP Per Capita, 1999-2003 and 2004-2006**

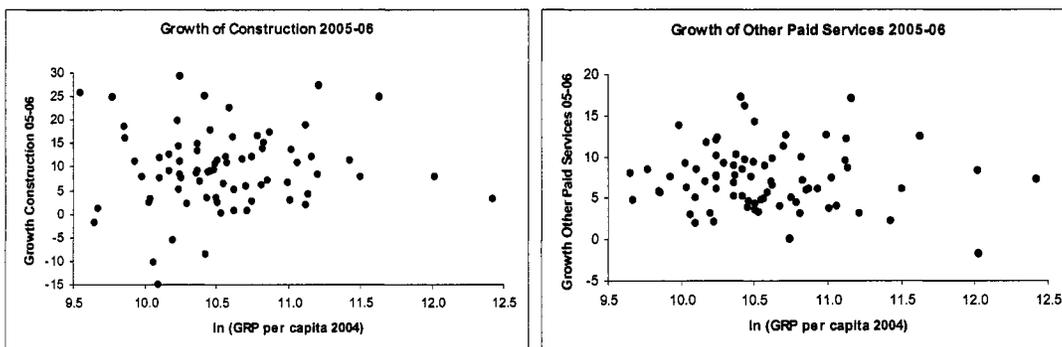


1.14 This relationship also looks to be visible in data on manufacturing and services, although construction growth, as an exception, would appear not to follow this pattern. When GRP data become available for these years, it will be possible to give a more full treatment to the question of convergence. Yet, the preliminary evidence would suggest the absence of a growth trend toward divergence in both the 1999-2003 and 2004-2006 periods.

**Figure 1.7: Growth of Manufacturing, 2005-2006**



**Figure 1.8: Growth of Construction, 2005-2006 and Growth of Other Paid Services, 2005-2006**



## D. A STATISTICAL TEST FOR CONVERGENCE

1.15 This section employs a formal statistical test for convergence that formalizes the relationships visible in the above figures. The basic equation relates the industrial growth of a given region to initial GDP per capita and the investment rate over the same given period. As the number of years under consideration for these two subperiods are very few, and output rather than GRP data are being used, the significance of this test is limited, and the preliminary results obtained here will need to be confirmed in future work.

$$\text{Industrial Growth}_i = \alpha_0 + \alpha_1 \ln(\text{GRP per capita}_i) + \alpha_2 \ln(\text{InvestmentRate}_i) + \varepsilon_i$$

1.16 This equation is estimated for the regions of the Russian Federation, both with and without the investment rate. The estimation is carried out separately for the 1999-2003 and 2004-2006 periods using OLS<sup>7</sup>. For both periods, a few outliers are removed from the regressions due to their potential excessive effects on the results. For 1999-2003, Moscow, Saint Petersburg, the Southern Republics, and Tyumen were removed from the sample. For 2004-2006, Chukotka, Kaliningrad, and Arkhangelsk were also removed for the same reason.

**Table 1.2: Convergence: Industrial Production and Initial Incomes**  
**Convergence: Industrial Production and Initial Incomes**

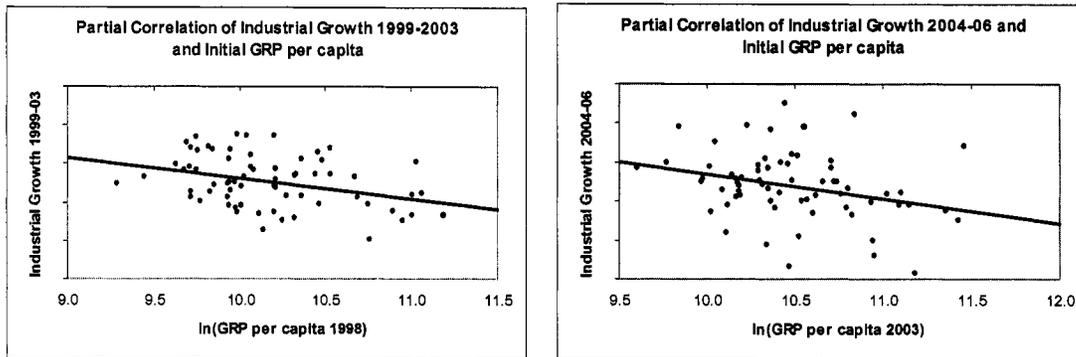
	Dependent Variable: Industrial Growth 1999-2003		Dependent Variable: Industrial Growth 2004-2006	
	Constant	26.191** (9.812)	23.461** (9.381)	32.043** (14.097)
ln(Initial GRP per capita)	-1.869* (0.964)	-2.692** (0.962)	-2.481* (1.343)	-3.149** (1.356)
ln(Investment Rate)		3.890** (1.377)		3.279* (1.654)
R <sup>2</sup>	0.054	0.157	0.051	0.106
N	68	68	66	66

Note: Std. Errors in parentheses; \*\* indicates significant at 5% or less; \* indicates sig. at 10%

1.17 The above results verify that regions with lower levels of initial GRP per capita generally experienced faster industrial growth, and that this effect is statistically significant for both the 1999-2003 and 2004-2006 periods (Columns 1 and 3). Furthermore, this relationship becomes stronger when controlling for the effect of the investment rate on industrial growth (Columns 2 and 4). This is depicted graphically in the following figures, which present the partial correlation between industrial growth and initial income from the estimations that included the investment rate.

<sup>7</sup> The next chapter employs a maximum likelihood technique that is consistent in the presence of (apparently significant) spillover effects that link growth between different regions.

**Figure 1.9: Partial Correlation of Industrial Growth, 1999-2003 and 2004-2006**



### **E. THE GEOGRAPHIC DISTRIBUTION OF GROWTH**

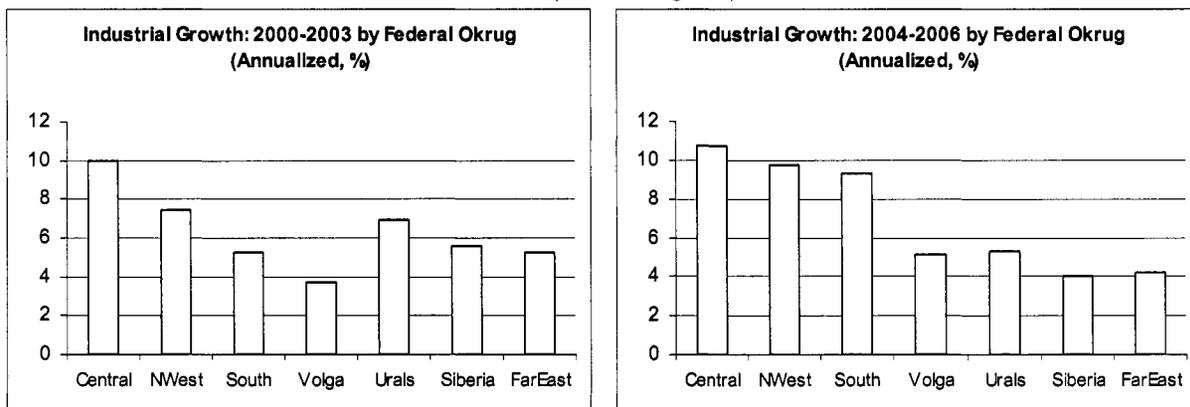
1.18 Although high growth has become increasingly concentrated in a smaller number of regions of the Russian Federation, output data do not suggest that an overall process of divergence has set in. This indicates that a number of poorer regions must be experiencing high output growth and/or that a number of richer regions must be experiencing lower growth. This section examines how growth has evolved within individual regions of the Russian Federation and how the distribution of growth has shifted in recent years. Data confirm a very strong trend toward the concentration of growth in the Western (European) part of Russia, most particularly in the Central, Northwestern, and Southern Federal Okrugs. The continued trend toward convergence is explained primarily by the facts that a number of high growth regions in Western Russia were relatively poor, while a number of resource-rich regions in Eastern Russia have experienced slower growth.

1.19 The figures below depict how the pattern of industrial growth across the seven federal okrugs has evolved since 1999. Given that federal okrug level data are only available from 2000, the periods of 2000-03 and 2004-06 are compared below on the basis of this data (Option 1). In addition, estimates of the 1999-03 and 2004-06 periods are presented using estimates based on a weighted average of the growth rates of the individual regions within each federal okrug (Option 2).

1.20 Both options confirm that growth in the most recent period has become more concentrated in the Central, North Western, and Southern Federal Okrugs. It is interesting to note that, although rates of industrial growth slowed in the Russian Federation as a whole during the 2004-06 period, the pace of growth actually accelerated in these okrugs. At the same time, growth rates have fallen notably in the Urals, Siberia, and Far East. In the Volga Okrug, growth increases slightly under option 1 and falls slightly under option 2. The increasing concentration of growth in the Western part of the country is consistent with evidence presented by Brown et al, (2008) that Russian enterprises activity increasingly westward, where productivity is generally higher.

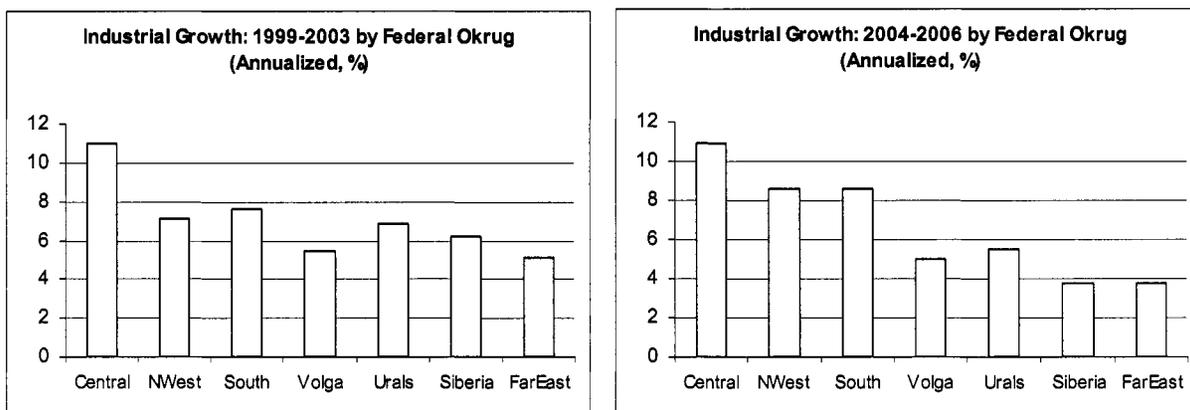
**Figure 1.10: Industrial Growth Rates at the Okrug Level**

OPTION 1 (Official Okrug data). I



**Figure 1.11: Weighted Average of Growth Rates of Regions Within Each Federal Okrug**

OPTION 2. WEIGHTED AVERAGE OF GROWTH RATES OF REGIONS WITHIN EACH FEDERAL OKRUG



1.21 How is the concentration of growth toward the Central, North Western, and Southern Okrugs related to the absence of a tendency toward divergence across the regions of Russia? Table 1.3 below divides Russian regions into four groups according to initial per capita GRP and the pace of industrial growth during 2004-2006. The majority of Subjects of the Federation fall into the categories of either poorer (below median GRP) regions with faster growth or richer regions with slower growth. In addition, the poorer regions with higher growth are concentrated in the Central and Southern Okrugs: Tver, Bryansk, Tula, Kostroma, Ryazan, Voronezh, Ivanovo, Saratov, Vladimir, Kaluga, and several regions in the South. The North Western Okrug has only one such region, Kaliningrad, but has a number of the richer regions that have continued to experience higher growth. Conversely, a high number of richer regions that grew slower than average during 2004-06 belong to the Siberian and the Far East Okrugs: Irkutsk, Kemerovo, Krasnoyarsk, Tomsk, Khabarovsk, Sakha (Yakutia), Chukotka, Kamchatka, Magadan, Amur.

**Table 1.3: The Dynamics of Regional Growth in Russia**

		Industrial Growth		GRP per capita	
		1999-03	2004-06	1998	2003
<b>Growth above median, GRP per capita above median--2004-06</b>					
▲ indicates industrial growth rose above median in 2004-06 from below median in 1999-03					
Nwest	Arkhangelsk oblast	8.99	22.79	34,121	55,260
Nwest	Leningrad oblast	10.09	17.49	27,096	51,252
Fareast	Primorskii krai	0.74	15.26	▲	28,206
Fareast	Sakhalin oblast	9.07	15.20	60,349	94,955
Central	Moscow city	14.69	15.19	105,263	155,712
Central	Moskow oblast	14.20	14.80	26,945	38,415
Volga	Mordovia republic	13.90	10.13	22,999	35,693
Nwest	Karelia republic	6.04	10.03	▲	31,654
Central	Belgorod oblast	11.43	9.11	23,594	33,628
Siberia	Novosibirsk oblast	7.92	8.85	23,508	36,866
Central	Oryol oblast	8.46	8.08	23,960	34,849
Volga	Orenburg oblast	8.22	7.73	30,485	44,714
Urals	Sverdlovsk oblast	9.74	6.75	31,534	46,058
Nwest	Novgorod oblast	7.75	6.66	26,993	35,857
Urals	Chelyabinsk oblast	8.10	6.49	30,695	42,710
Nwest	Vologda oblast	4.47	5.92	▲	43,748
<b>Growth above median, GRP per capita below median--2004-06</b>					
Nwest	Kaliningrad oblast	7.57	32.17	▲	20,786
South	Dagestan republic	1.35	18.62	▲	7,549
South	Adygeya republic	11.72	16.68	11,877	14,194
South	Rostov oblast	12.00	14.41	17,302	27,776
Volga	Mari-El republic	5.20	13.61	▲	16,570
Siberia	Omsk oblast	9.06	11.51	20,692	31,666
South	Kabardino-Balkar republic	12.95	10.58	13,981	22,106
Central	Bryansk oblast	9.96	10.11	16,600	23,030
South	Krasnodar krai	8.93	9.67	22,224	31,299
Volga	Chuvash republic	5.22	9.33	▲	17,508
Central	Ivanovo oblast	6.22	9.24	▲	12,631
Volga	Saratov oblast	11.33	8.97	20,910	30,772
Central	Tver oblast	4.51	7.97	▲	21,773
Central	Tula oblast	7.72	7.97	22,563	29,440
Central	Kostroma oblast	6.06	7.73	▲	20,513
Central	Ryazan oblast	6.84	7.40	▲	21,346
Central	Voronezh oblast	5.79	7.36	▲	18,629
South	Stavropol krai	7.83	6.69	18,955	26,057
Volga	Penza oblast	8.96	6.26	15,204	21,398
Siberia	Tuva republic	4.86	6.19	▲	10,820
Siberia	Altai republic	12.13	6.12	16,165	24,120
Central	Kaluga oblast	13.50	6.11	21,730	29,697
Central	Viadimir oblast	11.07	5.96	18,438	26,275
Siberia	Buryat republic	11.46	5.85	18,900	26,901
	<b>Mean</b>	<b>7.22</b>	<b>6.58</b>	25,646	35,967
	<b>Median</b>	<b>7.65</b>	<b>5.85</b>	22,999	33,314
	<b>Russian Federation</b>	<b>6.64</b>	<b>5.24</b>	36,060	51,958
<b>Growth below median, GRP per capita above median--2004-06</b>					
▼ indicates industrial growth fell below median in 2004-06 from above median in 1999-03					
Volga	Tatarstan republic	5.20	5.79	46,661	66,445

Central	Lipetsk oblast	10.35	5.56	▼	34,673	49,241
Central	Yaroslavl oblast	8.87	5.23	▼	27,198	40,806
Volga	Bashkortostan republic	5.04	5.13		35,141	47,124
Siberia	Irkutsk oblast	6.46	5.07		37,451	45,501
Urals	Tyumen oblast	5.86	4.83		171,087	234,989
Siberia	Kemerovo oblast	6.38	4.59		27,135	37,896
Nwest	Komi republic	3.07	4.40		56,774	69,863
Volga	Nizhny Novgorod oblast	2.44	4.33		27,015	38,906
Fareast	Chukotka autonomous okrug	11.67	4.23	▼	61,546	177,478
Nwest	St. Petersburg city	10.32	3.71	▼	36,631	59,136
Volga	Samara oblast	7.35	3.56		43,129	56,089
Fareast	Kamchatka oblast	-0.63	2.66		47,192	48,845
Volga	Perm krai		2.32		36,789	50,234
Nwest	Murmansk oblast	2.81	2.20		53,897	65,707
Fareast	Sakha (Yakutia) republic	3.58	1.61		72,312	91,741
Volga	Udmurtia Republic	2.35	1.55		30,310	40,116
Siberia	Krasnoyarsk krai	4.45	1.48		63,959	85,478
South	Astrakhan oblast	5.75	1.06		24,682	37,092
Siberia	Tomsk oblast	10.95	-1.79	▼	35,647	56,431
Fareast	Khabarovsk krai	11.65	-2.01	▼	37,258	56,970
Fareast	Amur oblast	2.45	-2.64		25,329	35,155
Fareast	Magadan oblast	2.46	-5.48		60,034	72,098
<b>Growth below median, GRP per capita below median--2004-06</b>						
Urals	Kurgan oblast	3.91	5.76		16,616	21,591
South	Karachaevo-Cherkess republic	12.80	5.67	▼	11,886	16,220
Central	Kursk oblast	4.25	5.44		22,295	31,240
Central	Tambov oblast	7.80	5.14	▼	16,404	26,341
Siberia	Khakasia republic	4.15	5.07		29,051	33,314
Volga	Ulyanovsk oblast	2.74	4.26		20,655	26,645
South	Volgograd oblast	3.80	3.94		22,298	31,713
Volga	Kirov oblast	2.09	3.84		21,642	25,992
Central	Smolensk oblast	8.05	3.30	▼	20,584	32,594
Nwest	Pskov oblast	8.04	3.03	▼	17,135	24,910
Siberia	Altai krai	7.94	1.52	▼	15,914	22,600
Fareast	Evrei autonomous oblast	11.43	1.35	▼	17,128	24,710
South	North Osetiya republic	6.45	0.05		11,602	18,076
Siberia	Chita oblast	6.64	-0.82		20,830	30,939
South	Ingush republic	-2.92	-6.07		16,249	12,267
South	Kalmyk republic	0.98	-6.37		16,363	20,671

1.22 As indicated in Table 1.3, a number of regions where industrial growth increased from below-median growth in 1999-2003 to above-median growth in 2004-2006 were also regions with incomes below the median in 2003: Kaliningrad, Dagestan, Mari-El Republic, Chuvash republic, Ivanovo, Tver, Kostroma, Ryazan oblast, Voronezh, and Tuva republic. Of course, this is not universally true. Several regions that fell from above-median growth in 1999-03 to below-median growth in 2004-06 had incomes below the median in 2003: Karachaevo-Cherkess republic, Tambov, Smolensk, Pskov, Altai krai, and the Jewish Autonomous Oblast.

1.23 Another interesting question is the distribution of industrial growth within the various groups of regions presented above. The higher growth rates experienced in the Central, North Western, and Southern Okrugs could be the result of an increasing number of regions in those areas achieving higher growth, or because of an acceleration of growth in the same particular subset of regions. Table 1.4 shows that the number of poorer regions in the Central Okrug

experiencing above-median growth increased from 6 during 1999-2003 to 9 during 2004-06. Thus, the continued evidence for convergence in the more recent period is related to a larger number of poorer regions in the Central Okrug growing at above-median rates. By contrast, the same number of poorer regions in the Southern Okrug (6) continue to experience above-median growth in the more recent period. Three of those six regions remain the relatively developed areas of Rostov, Krasnodar, and Stavropol. Table 1.4 also shows that the number of poor and lagging (low-growth) regions decreased (from 6 to 3) in the Central Okrug, remained the same number (5) in the Southern Okrug, and increased (from 2 to 4) in the Siberian and Far East Okrugs combined.

**Table 1.4: The Distribution of Growth by Okrug**

	<b>Number of Regions 1999-03</b>	<b>Number of Regions 2004-06</b>	<b>Total Number of Regions in Federal Okrug</b>
<b><i>Growth above median, GRP per capita above median</i></b>			
Central	6	4	18
NWest	4	5	10
South	0	0	12
Volga	1	2	14
Urals	2	2	4
Siberia	2	1	12
FarEast	3	2	9
<b><i>Growth above median, GRP per capita below median</i></b>			
Central	6	9	18
NWest	1	1	10
South	6	6	12
Volga	3	4	14
Urals	0	0	4
Siberia	4	4	12
FarEast	1	0	9
<b><i>Growth below median, GRP per capita above median</i></b>			
Central	0	2	18
NWest	4	3	10
South	1	1	12
Volga	6	6	14
Urals	1	1	4
Siberia	4	4	12
FarEast	5	6	9
<b><i>Growth below median, GRP per capita below median</i></b>			
Central	6	3	18
NWest	1	1	10
South	5	5	12
Volga	4	2	14
Urals	1	1	4
Siberia	2	3	12
FarEast	0	1	9

1.24 A greater number of regions in central Russia experiencing higher-than-average growth is consistent with the emergence and strengthening of agglomeration effects for regions in proximity to Moscow and Moscow Oblast, which have been growing at particularly impressive rates. These questions are taken up in Chapters 2 and 3. A preliminary statistical examination of the data suggests that industrial growth has become more regionally correlated in 2004-2006 relative to 1999-2003.<sup>8</sup>

## F. CONCLUSION

1.25 The analysis in this chapter explored recent shifts in the patterns of growth across the regions of the Russian Federation primarily on the basis of data on industrial production, which is available for more recent years than GRP data. The evidence suggests that

- While the pace of average industrial growth has fallen, the dispersion of growth among Russian regions has increased.
- Industrial growth has become increasingly concentrated in the Western part of Russia, particularly in the Central, North Western, and Southern Okrugs. In fact, industrial growth has actually accelerated in this part of Russia, in contrast to the trend for the country as a whole.
- Despite the greater dispersion in growth during the more recent period of 2004-2006, output data do not suggest any shift to a trend of divergence among regions. This was due to rapid growth in a number of regions in the Central Okrug with lower than average per capita GRP, as well as slower growth in a number of resource-rich regions in the East with relatively high per capita GRP.
- The number of regions experiencing higher-than-average growth in the Central Okrug is increasing, supporting the possible presence of agglomeration (spillover) effects. Industrial growth appears statistically more related to growth in regions of close geographic proximity in 2004-2006 than in 1999-2003.

1.26 The policy implications of these results, as well as the results of the Chapter 3, will be examined in detail in Chapter 4. On the one hand, the absence of a notable trend toward regional divergence in the Russian Federation is encouraging, and runs counter to the suggestions in a number of articles that regional inequalities are increasing sharply in the country. On the other hand, as the emerging divide between the Western and Eastern/Northern part of the country increases, and the corresponding inequalities become more serious, the overall trend could very well revert to divergence. Some poorer regions in the East and North are already facing increasing challenges.

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<sup>8</sup> Although the subperiods in question are too short for a compelling statistical examination of this question, if regional industrial growth in 1999-2003 and 2004-2006 is regressed on initial GRP per capita and "market potential," or spillover effects from the growth rates in other regions weighted by distance from capital city to capital city (see Chapter 2 for a detailed explanation), the estimated coefficient on spillover effects is highly significant for 2004-2006 and less significant for 1999-2003.

## **2. THE SOURCES OF REGIONAL GROWTH AND AGGLOMERATION EFFECTS<sup>1</sup>**

2.1 This chapter continues the investigation of regional growth of Chapter 1. Instead of industrial production data, this chapter utilizes GRP data (close to a regional equivalent of GDP) which, at the time of writing, were available only up to 2004. For this reason, this chapter only examines the period of economic growth (1999-2004) with available data as one unit, as opposed to the division into growth subintervals performed in Chapter 1. On this basis, a more detailed investigation is conducted on the subjects of regional convergence, the factors of regional growth, and the presence of spillover (agglomeration) effects between regions.

2.2 The results are largely consistent with, and complementary to, those of Chapter 1. Additional evidence is presented for the hypothesis that regional differentials have not increased, on average, during the period of economic growth in Russia. On the contrary, initial income level enters consistently as a significant negative coefficient in the growth estimations. Explanatory factors of growth that appear significant include agglomeration effects (urban agglomeration and spillover effects from proximity to rapidly growing regions), human capital, climatic conditions, initial income, fuel endowments, and a year-round port. By contrast, data under consideration on infrastructure intensity or the business climate did not appear significantly related to the regional growth data. However, this could be due to problems in the measurement of genuine infrastructure or business climate constraints to growth over the period in question.

2.3 This chapter only presents the basic results of the econometric work. Those interested in the details of the investigations are referred to a background paper for this Country Economic Memorandum, (Polyakov (2007)).

### **A. RELATED LITERATURE ON REGIONAL GROWTH IN RUSSIA AND AGGLOMERATION EFFECTS**

2.4 Before the work conducting for this CEM, not much statistical research has been conducted on the sources of regional growth in Russia. Two studies ((Ahrend (2002) and Yudaeva et al (2004)) examined the 1990s, a period of sharp economic decline in Russia. The period of economic growth since 1999 examined in this chapter features a very different dynamic. Drobyshevsky et al (2005) examined regional growth during 1994-2002, which does include the initial period of growth. They investigate primarily the questions of convergence and the link between regional growth to labor and capital constraints. They find evidence neither for strong regional convergence nor divergence during this period.

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<sup>1</sup> This chapter was prepared under the joint support of the World Bank and the Canadian International Development Agency (CIDA). Work supported by CIDA was conducted in the Moscow Institute for the Economy in Transition. Some preliminary results from this chapter were published as "Russian Regional Growth and Agglomeration Effects" as Part 2 of World Bank *Russian Economic Report* #14, 2007.

2.5 None of the previous studies cited above attempt to account for agglomeration or spillover effects between regions. Research in the so-called new economic geography has spurred increasing interest in the investigation of agglomeration effects in explaining regional or local growth, although the empirical literature has emerged and developed very slowly. One such literature examines urban agglomerations on the basis of local (municipal level) data.<sup>2</sup> Such data was not available for this CEM, and hopefully this topic will be examined in future research through the generation of appropriate Russian city-level data sets. Another literature examines agglomeration effects at the larger regional level in the form of growth spillovers from surrounding regions. Getis et al. (2004) and Fingleton (2002, 2003) applied a concept of spatial econometrics to the analysis of such regional growth spillovers in the EU. This chapter largely follows their approach for the case of Russia.

## **B. UNIT OF ANALYSIS AND PPP CORRECTION**

2.6 Russian statistics provide data for territorial units under different definitions: the subjects of the Federation (republics, krays, oblasts, and autonomous okrugs); larger subjects of the Federation (which incorporate autonomous okrugs); and the units at the municipal level (rayons and cities/towns). This report limits analysis to growth at the level of larger subjects of the Federation, i.e. republics, krays, and oblasts, which incorporate respective autonomous okrugs. The choice of territorial unit reflects the availability of data. Due to the absence of data, the Chechen Republic has been excluded from analysis.

2.7 The GRP per capita indicators used in this study were adjusted to correct for a substantial variance in regional price levels and the purchasing power of the ruble across the Russian Federation. Russian official statistics do not offer PPP estimates for regions. Nevertheless, Granberg and Zaitseva (2003) calculated composite regional PPP indices based on data for three main GRP components (household consumption, social consumption and savings). This study employs this index as a base, and then adjusts GRP for other years through an implicit GRP deflator that is calculated on the basis of official data for nominal and real rates of GRP growth for each region. The same analysis was also performed without a PPP correction with very similar results. Population and other demographic indicators correspond to recently revised official estimates that make use of the 2002 Census.

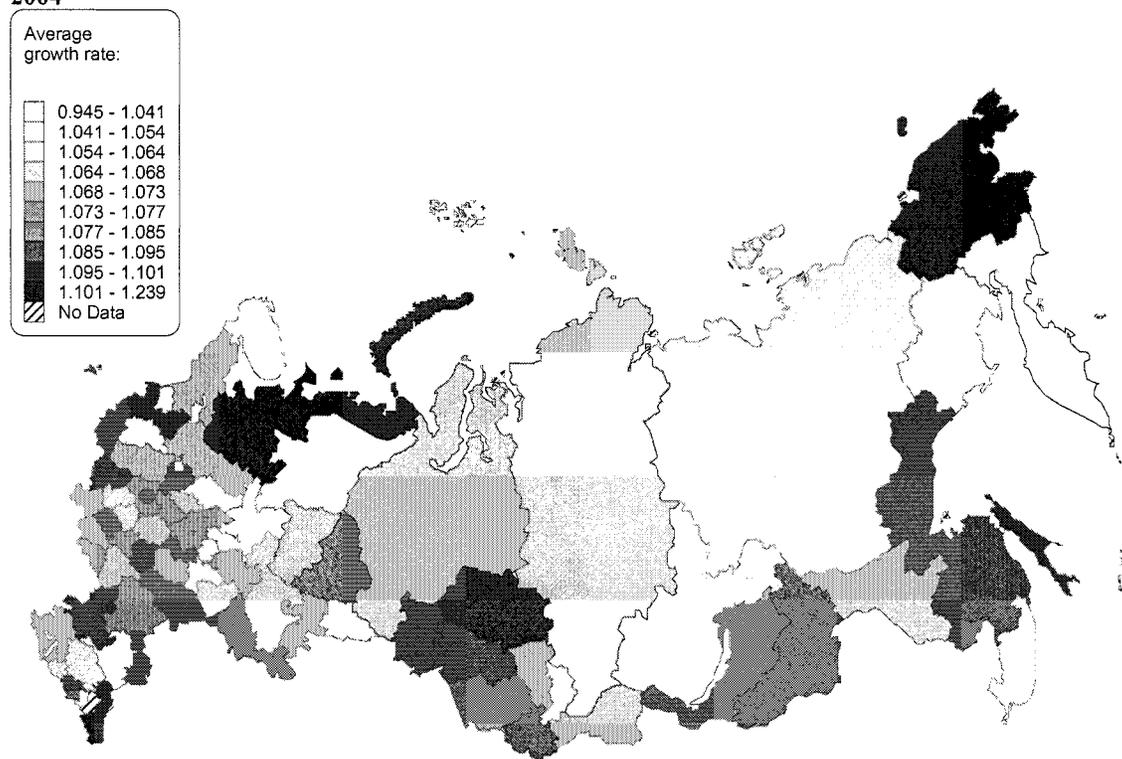
## **C. TRENDS IN THE REGIONAL VARIATION OF GRP**

2.8 The analysis of the previous chapter, based on primarily on industrial production data, suggested that growth in Russia was becoming increasingly concentrated in the Western part of the country, particularly in the Central, North Western, and Southern Okrugs. A preliminary glance at the distribution of regional per capita GRP growth from 1999-2004, presented in Figure 2.1, looks to be consistent with this view. Regions of higher GRP growth during this period are represented with a darker green color. In addition to faster growth in the European part of Russia, regions with coastal locations also appear to enjoy an advantage, as is consistent with the findings of Sachs et al. (1998).

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<sup>2</sup> For a recent survey of the empirical literature, see Roberts and Setterfield (2007)

**Figure 2.1: Average Annual Regional Growth in GRP Per Capita in the Russian Federation: 1999-2004**



2.9 Some recent literature on Russian regions highlights what are perceived as growing regional disparities in income levels in the country. For this question, Figure 2.2 shows the coefficient of variation of regional GRP per capita in both nominal and real terms (PPP corrected) from 1995-2004. This coefficient of variation, which equals to the ratio of the standard deviation to the mean, is a commonly used measure of dispersion.<sup>3</sup>

2.10 As indicated in Figure 2.2, while the coefficient of variation of nominal GRP rose by 59 percent from 1995-2002, the coefficient of variation of real GRP was essentially flat, rising by only 9 percent due to an increase during 2000-2003.<sup>4</sup> The statistical significance of variation in the coefficient of real GRP was tested through a likelihood ratio test (Verrill and Johnson (2005)).<sup>5</sup> This test suggests that, although there was a statistically significant increase in

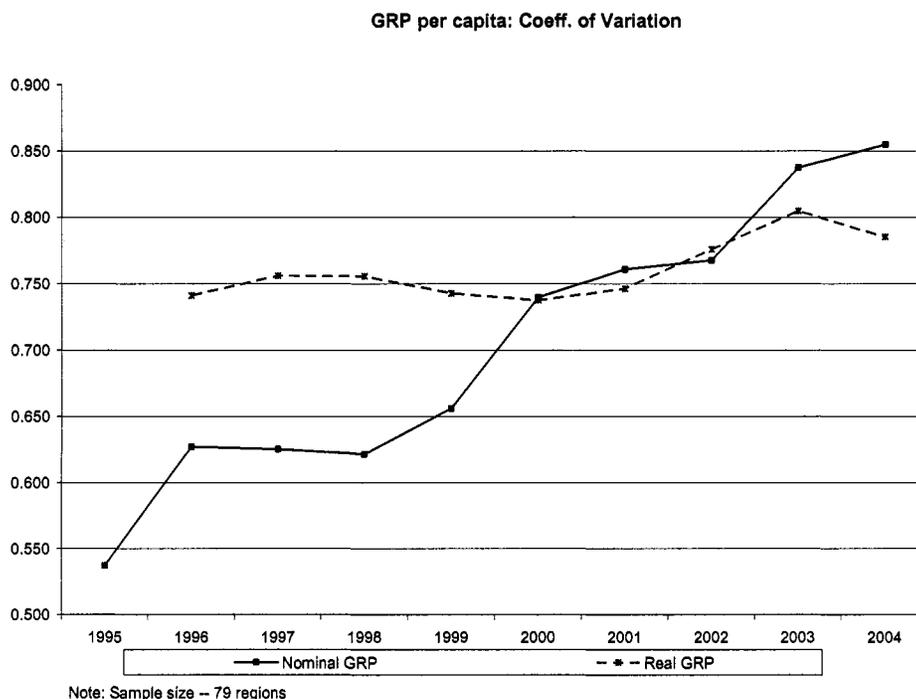
<sup>3</sup> Alternative measures of dispersion of regional per capita GRP (Gini coefficients, inter-quartile range (the difference between the upper and lower quartiles of the Log GRP per capita)), or range (the difference between maximum and minimum of the Log GRP per capita) give the same consistent picture as the coefficient of variation.

<sup>4</sup> These results are slightly different to those reported in Klotsvog and Chernova (2004) for the period of 1996-2001, where it was argued that the coefficient of variation in real terms was increasing in the mid- 1990s. This may be due to slight differences in the data or methodology used. Yet Klotsvog and Chernova also reach the general qualitative result that, after a price correction, no major trend toward divergence is detectable in the coefficient of variation.

<sup>5</sup> See <http://www1.fpl.fs.fed.us/covtestk.html>. This is a test of the equality of the coefficients of variation of  $k$  normally distributed populations for the 79 Russian regions. The test was also performed with the exclusion of two atypical regions: Chukotka (the highest growth rates) and Ingushetia (the lowest). This test is based on a Likelihood Ratio, and is robust to log-normal distributions if the number of such distributions tested is less or equal 50 (which is true for this

variation of nominal GRP from 1995 to 2004, all annual changes in the coefficients of variation were statistically insignificant. Therefore, it appears that the regional variation in per capita GRP did not change significantly from 1996 to 2004. Growing regional disparities in nominal GRP per capita can be explained almost entirely by differential regional inflation rates, with richer regions experiencing higher inflation on average. As concluded in Chapter 1, production data on growth in industry, trade, and other services actually indicates evidence for regional convergence over the period in question. As indicated below, initial GRP per capita also appears significantly and inversely related to regional growth, particularly after correction for a number of other factors.

**Figure 2.2: Nominal and Real Coefficients of Variation of Russian Regional GRP**



2.11 Some groups of regions did show significant convergence toward, or divergence from, the regional mean in GRP per capita during 1999-2004, as indicated in the map below (Figure 2.3). In this map, each region is represented according to changes in its GRP per capita level relative to the mean over the period under consideration. If  $Y_i^t$  ( $Y_i^0$ ) is real GRP per capita at the end (beginning) of the period under examination for region  $i$ , and  $Y^t$  ( $Y^0$ ) is the average of per capita regional GRP at the same time, then:

$$(1) \quad \Delta y_i = \frac{Y_i^t}{Y^t} - \frac{Y_i^0}{Y^0}.$$

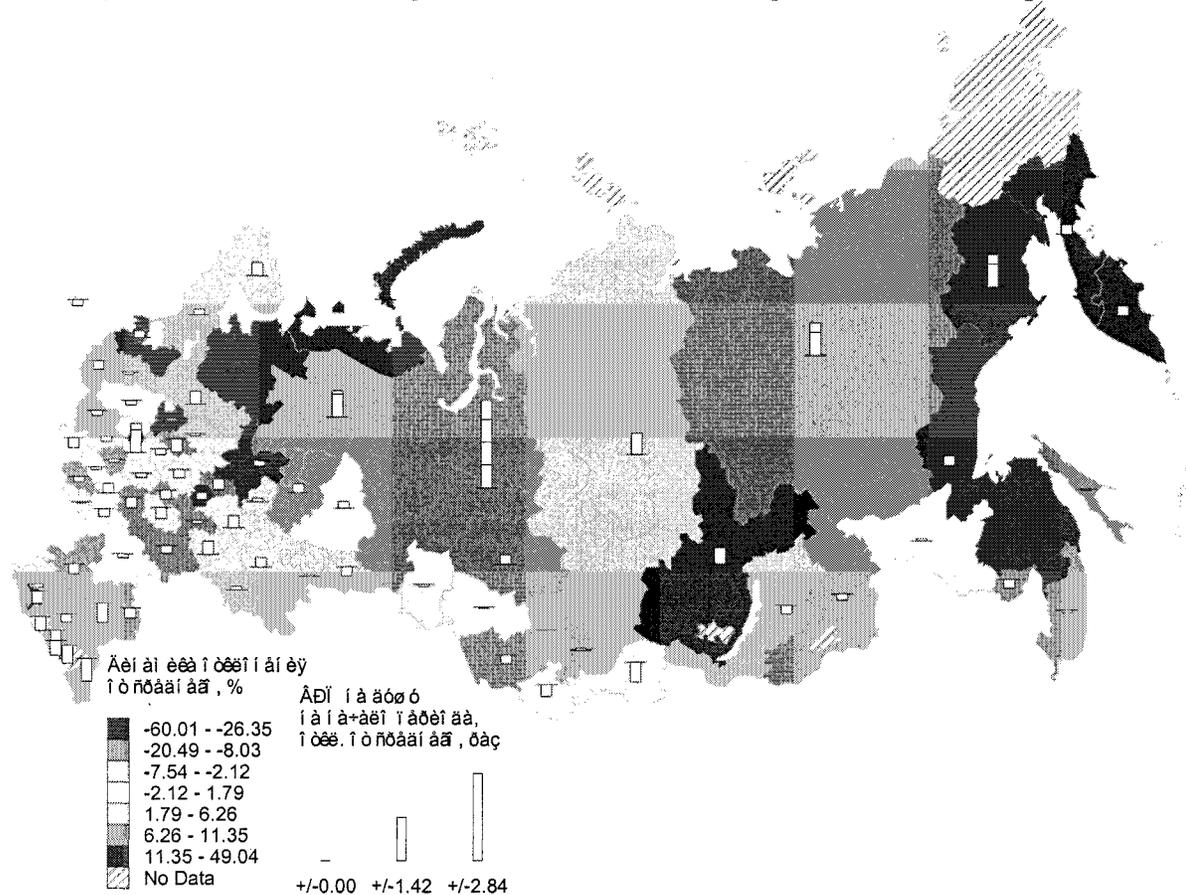
2.12 The map identifies regions that contributed the most to either regional convergence or divergence. The regions that contributed in the direction of an increase in overall variation (regional diversion) were of two types: (i) leading regions further expanding their lead

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case, as 10 years are under consideration). This test was conducted for GRP per capita and its logarithms, with similar results.

$(\frac{Y_i^t}{Y^t} > 1, \Delta y_i > 0)$ , and (ii) lagging regions further falling behind  $(\frac{Y_i^t}{Y^t} < 1, \Delta y_i < 0)$ . The regions that contributed the most to decrease increase in overall variation (regional conversion) were also of two types: (iii) lagging regions catching up  $(\frac{Y_i^t}{Y^t} < 1, \Delta y_i > 0)$ , and (iv) leading regions digressing to the mean  $(\frac{Y_i^t}{Y^t} > 1, \Delta y_i < 0)$ . The map below presents regional changes in relative GRP per capita and the relative level of GRP per capita in the beginning of the period (in 1998).

**Figure 2.3: 1999-2004 Per Capita GRP Growth in Russian Regions: Leaders and Lagers**



2.13 Leading regions further expanding their lead with the largest change in relative GRP per capita include St. Petersburg, Arkhangelsk oblast, Khabarovsk krai, Tyumen oblast, Perm oblast, and Tomsk oblast. These are competitive industrial regions with significant mineral extraction sectors (except for St. Petersburg and Yaroslavl Oblast). As emphasized in Chapter 1, however, this picture appears to have changed fundamentally for the period of 2004-2006, with many central regions close to Moscow experiencing high growth and a number of resource-rich regions experiencing lower growth.

2.14 Lagging regions that fell further behind include the Buryatia republic, Altai krai, and Primorskii krai. These are remotely located regions with limited resources, although the latter is a major transportation hub for the Far East.

2.15 Lagging regions that were catching up in 1999-2004 include Smolensk oblast, Rostov oblast, Saratov oblast, Astrakhan oblast, and the Mordovo republic. These are relatively developed regions with a favorable geographic position. A number of additional regions in the central part of Russia with lower-than-average per capita GRP have experience accelerated growth since 2004 (See Chapter 1). Higher per capita GRP regions that experienced slower growth include Irkutsk oblast, Kamchatka oblast, Magadan oblast, Komi republic, and the Sakha republic. These are resource-rich regions with difficult cold and/or peripheral geographic positions.

#### D. SPATIAL INTERACTIONS AND MARKET POTENTIAL

2.16 The analysis in Chapter 1 suggested the presence of spatial dependence in regional economic growth, namely spillover effects from neighboring regions on the growth of a given region. This chapter does a detailed investigation of this question of the degree to which fast-growing regions induce growth in neighboring areas. The economic advantages for such areas include proximity to markets of high demand and the expansion of activities from centers of growth to peripheral areas due to congestion or cheaper available factors of production. It is interesting to note that proximity to wealthy or growing areas can be a disadvantage as well as an advantage for growth. For example, it was perceived in Russia that the initial economic boom in Moscow had the effect of attracting the best human and physical capital from surrounding regions. Only more recently has the greater Moscow agglomeration expanded well beyond its borders to surrounding regions.

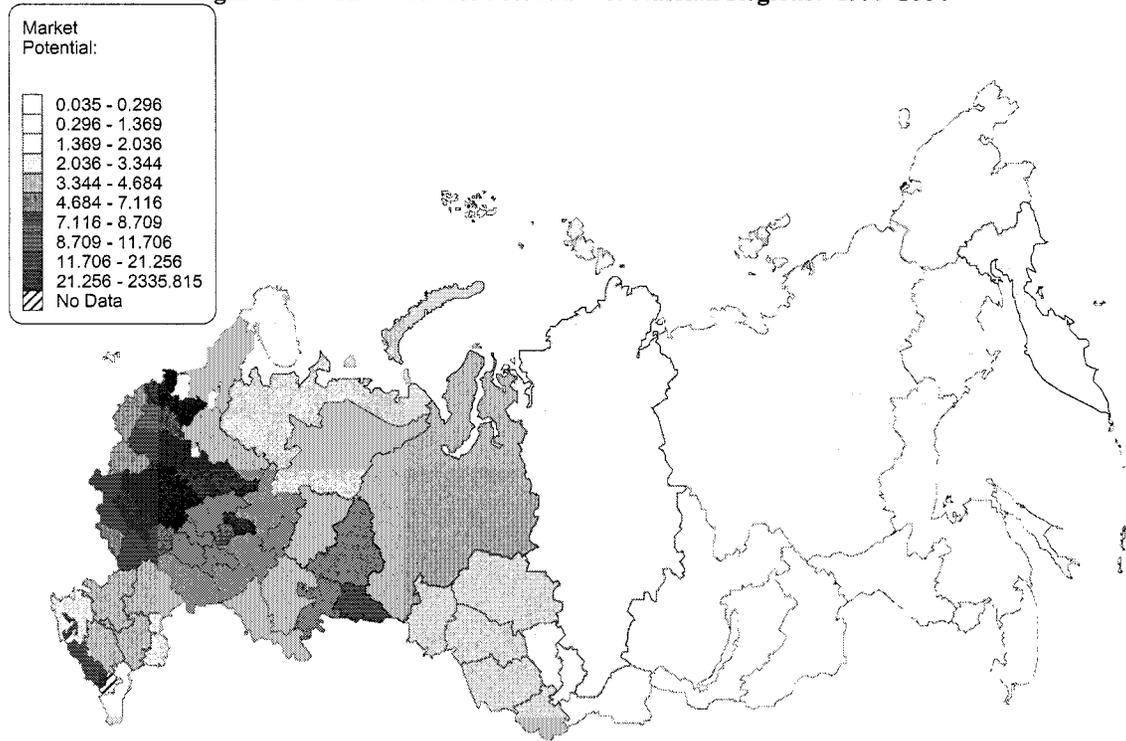
2.17 Spatial spillover effects are measured by a variable that weighs surrounding regions by the size of their markets (GRP per capita) and distance. Distance is measured alternatively by the geographical distance of regional capital cities from each other, or of estimated transportation time between these cities. This variable is commonly referred to in spatial analysis as “market potential (MP),” and is based on the gravity concept that the strength (or probability) of economic interactions between regions is positively related to the size of their respective GRPs and inversely related to distance between them (Isard, 1960: 424-457).

$$(2) \quad MP_i = \sum_{j \neq i} \frac{GRP_j}{d_{ij}}$$

where  $GRP_j$  is the GRP of region  $j$  and  $d_{ij}$  is the distance of region  $j$  from region  $i$ .

2.18 As might be expected, market potential, defined in this way, is particularly concentrated in Central Russia and the Northwest, particularly around Moscow and St. Petersburg. It should be noted that spillover effects could also be present in regions close to foreign borders from markets in other countries. Such effects are beyond the scope of this study, however.

Figure 2.4: The "Market Potential" of Russian Regions: 1999-2004



Map 3: Market Potential of Russian Regions (based on the 1998 GRP)

### The spatial model for regional growth estimations

2.19 Growth equations for 1999-2004 were estimated for Russian regions using methods of spatial econometrics that account for correlation in regional growth (spillover effects) that are not captured in the specified exogenous variables. The basic spatial growth regression model can be specified as follows:<sup>6</sup>

$$(3) \quad Y = \alpha + X\beta + \rho WY + \epsilon \quad \epsilon \sim N(0, \delta^2 I)$$

where  $Y$  is the vector of regional growth rates,  $X$  is the vector of exogenous growth factors,  $W$  is the geographic weight matrix that corresponds to "market potential" as defined above, and  $\alpha$ ,  $\beta$ , and  $\rho$  are estimated parameters.<sup>7</sup> In this framework, the parameter  $\rho$  measures the impact on growth from relative market potential (proximity to rapidly growing regional markets).

2.20 The presence of nontrivial spatial effects implies stochastic dependence in the regional growth equations, which make ordinary OLS estimates biased and inconsistent. Indeed, standard tests indicate that spatial spillover effects for the case of Russian regions are significant.<sup>8</sup> For this reason, a maximum likelihood estimation procedure from spatial econometrics is applied that is both unbiased and consistent.

<sup>6</sup> This is referred to as the "spatial lag model" in the literature. An alternative model, the "spatial error model," assumes a first order autoregressive process for the spatial errors. Both of these models were considered for the estimations that are reported in this chapter.

<sup>7</sup> For normalization purposes, in the matrix,  $W$ ,  $\sum_j w_{ij} = 1$ .

<sup>8</sup> These tests are the Moran's  $I$ , Geary statistics, and Moran's scatter plot (See Polyakov (2007)) for details.

2.21 The primary exogenous variables related to regional growth in the estimations were initial GRP per capita, the investment rate, urban agglomeration, human capital, infrastructure, the investment climate, ethnic fragmentation, resource endowments, the presence or absence of a port, climatic conditions, and the size of federal transfers. The measurements and results from the estimations for each of these variables and regional spillovers are summarized briefly below. For details, the reader is referred to Polykov (2007).

### **Definition and Measurement of the Exogenous Variables**

- **Initial income** is measured as GRP per capita at the beginning of the period in question. It is used primarily to assess the convergence hypothesis as examined above and in Chapter 1.
- **Urban agglomeration.** While one type of agglomeration effect (spillovers from growth in other regions) is to be captured in the coefficient on “market potential,” as defined above, growth clusters can take the more direct form of urban agglomeration within a given region.<sup>9</sup> Evidence in the literature suggests that productivity within an urban area is an increasing function of population within a significant range. Some studies argue that urban agglomeration has indeed become of increasing importance in Russia in recent years (Nefedova, 2004). The statistical analysis considered a number of variables related to urban agglomeration: size (population) of the largest city, share of the regional population living in the largest city, the share of regional population living in cities with population of 100,000 or more, or, alternatively, 50,000 or more.
- **Human capital.** As in Chapter 1, this is measured by the share of the regional population with higher education.
- **Infrastructure.** Measures related to infrastructure include stock variables in absolute and per capita terms (rail density, road density, length of roads and rail, and phone lines) and quality variables (the share of hard roads and share of improved hard roads).
- **Investment climate** variables are represented by the OPORA survey of small businesses for 2005, which measures perceptions of bribery, criminal activity, corruption, unfair competitive practices, and other variables related to the investment climate in the majority of Russian regions. A regional index of investment risk distributed regularly by *Expert* was also considered.
- The degree of **ethnic fragmentation** is approximated by a index that accounts for the share and number of ethnic minorities in the population. Sachs and Warner (1995) suggest that high ethnic fragmentation can affect growth through economic policies that must seek compromises between various ethnic interest groups. In the Russian Federation, ethnic fragmentation is particularly common in the poorer republics of the Southern Federal Okrug.
- **Fuel endowments** are measured through a dummy variable for those regions with a fuel share of GDP exceeding 14 percent. For Russian regions, this cut-off point provides a very convenient bifurcation of hydrocarbon-oriented and other territories. Only a few regions are close to this 14 percent border line.
- **Year-round port.** A dummy variable is used for regions that have such a port.

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<sup>9</sup> For a recent detailed discussion of urban growth and agglomeration, see OECD (2006).

- **Climate.** One of the most important variables that differentiates Russian regions is climate. In particular, regions with severely cold climates have economic disadvantages in higher production, transportation, and investment costs. The climate variables explored include average January temperature, the average of January and July temperatures, and an indicator of whether or not a region is subjected to any permafrost.
- **Federal financial aid.** During the period in question, most federal transfers to Russian regions did not have the explicit aim of increasing growth, but of supporting the social sector in poorer areas. Nevertheless, per capita federal transfers to the regions were examined in the growth analysis. In fact, some recent studies of the EU find a significant positive impact of central transfers on regional growth.

## E. STATISTICAL ANALYSIS: A SUMMARY OF THE RESULTS

2.22 The statistical analysis examined the significance of the above variables in a variety of approaches and specifications. The details of this work can be found in Polyakov (2007). The general findings are summarized below and in a summary table in the Appendix:

2.23 Initial Income and Convergence: Both with and without controlling for other variables, the level of initial income in a region appears to have a negative and statistically significant effect on growth. This provides evidence for both absolute convergence (poorer regions are catching up on average) and conditional convergence (the relationship remains significant, and becomes even stronger, when controlling for the investment rate and other variables). This is consistent with the conclusions reached in Chapter 1.

2.24 Investment Rate: As might be predicted, the investment rate (investment as a share of GRP) has a positive and statistically significant effect on growth, suggesting that regions which invest a higher share of their income experience faster growth. The relationship between the investment rate and growth strengthens substantially if Moscow, Saint Petersburg, and the southern republics are excluded from the sample, suggesting that these outliers were adding noise to the relationship.

2.25 Urban Agglomeration: The size (population) of the main city in a region is found to be positively related to growth and significant in a wide variety of specifications. This is robust to the removal of Moscow and Saint Petersburg from the sample. Shares of the regional population living in larger cities also appear to be positively related to growth, although their significance is more variable over different specifications. However, the share of the population living in the single largest city of the region did not appear significantly related to regional growth statistics.

2.26 Human Capital: The share of population with higher education appears to have a positive and significant effect on growth, although this still statistically significant relationship weakens somewhat when Moscow and Saint Petersburg are dropped from the sample. Human capital, thus defined, is also very highly correlated with measures of urban agglomeration used here, and therefore these two variables were not examined in the context of a single equation.

2.27 Infrastructure: The measures of infrastructure intensity did not correlate well with regional growth. Of these indicators, only the total length of roads and the total length of rail come out positive and significant in some statistical estimations. Yet the interpretation here is somewhat problematic due to the strong relationship of these variables to regional size. Infrastructure intensity does not appear closely related to regional growth. But this does not

imply that infrastructure is not important for regional growth. Infrastructure intensity is most likely a poor proxy for genuine infrastructure constraints on growth, i.e. a rapidly growing region might have relatively more infrastructure, but still not enough, while a stagnating region may have yet to experience sufficient growth to feel a strong bite from infrastructure constraints. The impact of infrastructure on growth can also be highly non-linear in the form of a “big push.” For example, if a new road or a rail network is essential to ignite regional growth, then a marginal expansion of infrastructure that falls short of this goal might have little impact on growth.

2.28 Investment Climate: Indicators of the investment climate based on the OPORA Survey did not emerge as significant in the conducted statistical estimations. This was the case for specifications that related them directly to regional growth, or as part of a two-stage estimation that made the investment rate a function of these variables. Part of the problem may concern the fact that these data were only available for 2006, and may be a very inaccurate proxy for business climate constraints at the regional level during 1999-2004. On the other hand, the regional investment risk index of *RA Expert* did appear significant and positive in a number of specifications.

2.29 Ethnic fragmentation: The index of ethnic fragmentation can be related to regional growth in a negative and statistically significant manner. . This effect is robust to the inclusion of human capital in the specification, and to the dropping of federal cities and southern republics from the sample. However,, ethnic diversity tends to be correlated with other variables, such as resource endowments, which makes the interpretation of this result somewhat difficult.

2.30 Fuel Endowment: This fuel endowment dummy indicator has a positive and statistically significant effect on growth in the 1999-2004 period. This relationship weakens when the investment rate is also included in the specification due to multicollinearity between the investment rate and fuel abundance. However, the relationship with the fuel indicator strengthens again when agglomeration or human capital is also included in the specification . Overall, the results suggest that an abundant endowment of petroleum had a significant positive effect on regional growth — this is particularly true of the 1999 2004 period that has witnessed significant increases in fuel production and prices. On the other hand, Chapter 1 suggests that this dynamic may have weakened in more recent years.

2.31 Year-Round Port: The port indicator has a strong positive and statistically significant effect on regional growth. This effect is robust to various specifications that include or exclude investment, human capital, and other determinants of growth. Introducing the port indicator in the specification results in a weakening of the relationship between growth and the investment rate, which again suggests that the investment rate is likely highly correlated with the port indicator.

2.32 Climate (Average Temperature, Permafrost): Of the climate variables explored, the “no permafrost” indicator appears to have a positive and statistically significant relationship with growth. This relationship weakens somewhat when urban agglomeration or human capital is included in the specification, due to the fact that these phenomena are common to regions with more favorable climates. The inclusion of a permafrost indicator also weakens somewhat the negative relationship between growth and initial GRP per capita in some specifications. Interestingly enough, the average January and July temperatures did not show significance as exogenous variables in the growth equations. However, the average January temperature does have a significant relationship with the investment rate, and therefore becomes significant in a sequential 2-stage least squares estimation of the investment rate and growth rate.

2.33 Federal Financial Aid: In all specifications considered, the federal financial aid variable was statistically insignificant or negative. This result is robust to the exclusion of the national republics of the Southern Okrug and the capital cities. Hence, it does not appear that federal budgetary transfers to the regions had a positive effect on growth.

2.34 Regional spillover effects: Our results show a significant and robust dependence of regional growth on growth in other regions of geographical proximity. Estimates of spatial spillover coefficients (the coefficient  $\rho$  on market potential) suggest that one extra percentage point of weighted average growth of all regions adds 0.35-0.45 percentage points to growth of an average individual region. This magnitude of spatial spillover effect is in line with estimates made for regions in the EU. For example, the spatial spillover coefficient was estimated at .5-.7 for the EU-15 regions (in the NUTS classification) for 1980-95 period (Fingleton, 2003, Le Gallo and Dall'erba, 2003). The estimates here for Russian regions are somewhat lower, although two facts should be kept in mind (a) EU regions are on average smaller (by area) than Russian regions and probably more integrated, (b) the analysis of Chapter 1 suggests that spatial spillover effects in Russia may have become stronger in the 2004-2006 period. This fact might be confirmed further when later GRP data become available. It is not unreasonable to conjecture that regional spillover effects in Russia are not too different now from those in the EU. A recent study (Brown et al, 2008) that makes use of enterprise level data offers important complementary evidence for the significance of regional spillover effects as measured in this CEM. In their study, access to markets, as measured through market potential, emerges as a major explanatory factor for the productivity of Russian enterprises.

2.35 The regression model (3) divides growth into three components: a spatially-determined component, a component explained by other exogenous variables, and a random component. Figure 2.5 below presents estimates of so-called spatially-determined growth rates for Russian regions during 1999-2004. This corresponds to the first component described above, and estimates the amount of growth in a given region that can be explained by growth in other regions through the "market potential" term. As seen in the figure, spatial spillovers are generally more significant in the Western part of the country, where one percent of economic growth in other regions weighted by market potential generates an estimated 0.3 to 0.5 percent growth in a given region. .

**Figure 2.5: Spatially Determined Growth in the Russian Federation: 1999-2004**



## F. CONCLUSION

2.36 This chapter conducted growth equation estimates for regional growth in Russia based on GRP data for the period of 1999-2004. The estimations including a number of exogenous variables related to growth as well as a component that accounts for spatial spillover effects from the growth in regions of geographic proximity. The primary conclusions are:

- Consistent with the results of Chapter 1, no evidence was found for general divergence in GRP per capita over the period in question. On the contrary, growth has been generally pro poor in its regional dimension. Initial GRP per capita appears negatively related to regional growth over the period in question.
- Regional spillover effects are estimated as being quite significant for Russia over the period of 1999-2004, although not quite as strong as those estimated for the EU-15 regions from 1980-1995. However, the analysis in Chapter 1 suggests that these that these spillover effects may have become stronger in Russia in more recent years.
- The investment rate, human capital, urban agglomeration (size of the largest city), fuel endowments, a warm climate (no permafrost), and a year-round port appear to have a significant and positive impact on regional growth. Ethnic fragmentation and initial GRP per capita, by contrast, look to be negatively related to regional growth. Variables considered for infrastructure intensity, the investment climate (OPORA), and federal financial aid did not appear linked to regional growth statistics, although, for the case of the former two variables, this is likely due to an insufficient link

between the measures considered and infrastructure or business climate constraints at the regional level.

The policy implications of the results of this chapter are considered later in Chapter 4.



### **3. RAPID REGIONAL DEVELOPMENT IN RUSSIA: THE CASES OF ROSTOV AND TVER**

#### **A. ECONOMIC BACKGROUND**

3.1 Rostov in the Southern Federal Okrug and Tver in the Central Okrug represent two Russia regions that have experienced quite rapid economic growth in recent years.<sup>1</sup> Both of these regions still have average income levels below the median in the Russian Federation. Thus, their rapid growth is part of the continued story of a strong pro-poor element in Russian regional growth examined in the previous two chapters; the relatively rapid growth in Rostov and Tver has enabled these regions to make progress in catching up with average living standards elsewhere in the country. The Rostov economy has been expanding rapidly throughout the 1999-2007 period of growth in Russia, while Tver has shifted from sluggish to rapid growth only relatively recently. Both of these regions are both part of what appear to be emerging larger growth agglomerations in the South and Central parts of Russia (Boxes 3.1 & 3.2).

3.2 There are a number of important differences between the economies of Rostov and Tver. Perhaps most importantly, Rostov is a central point of growth in the South of Russia, whereas the economic picture in Tver has been profoundly affected by an agglomeration that is centered in Moscow. In fact, a good number of people in Tver living close to the Moscow Oblast border actually work in Moscow. Relative to Tver, Rostov boasts a strong entrepreneurial tradition that was never completely subdued in the Soviet period, as well as a stronger comparative advantage in agriculture. Rostov is also close to the potentially unstable areas of the Southern ethnic republics. Substantial migration into Rostov from those areas may help to alleviate the labor market constraints that are becoming increasingly serious in Russia, but can also be focus of social tensions. On the other hand, Tver faces the same demographic problems of stagnant or declining population growth as many other Russian regions.

3.3 As Moscow, Saint Petersburg, and international capital become increasingly interested in Rostov and Tver, certain associated social and political tensions have emerged in these regions. This is particularly pronounced in Tver (See Box B.2). Rostov may not face the same degree of social tensions in this regard, but the attraction and penetration of outside capital is also a key issue for this region. The Rostov economy has functioned largely on the basis of close ties between larger local businesses and the regional administration. Such ties helped to facilitate trust during the time of exceptionally weak institutions for contract and law enforcement. Yet a perception of favoritism toward local or politically connected businesses can also adversely affect the expectations of outside investors, and weaken competitive pressures. Like Tver and other growing Russian regions, Rostov faces strong competition for the attraction of physical and human capital, and its future success should depend on how well they can manage a transition to a more hospitable economic environment for outside capital and migrants.

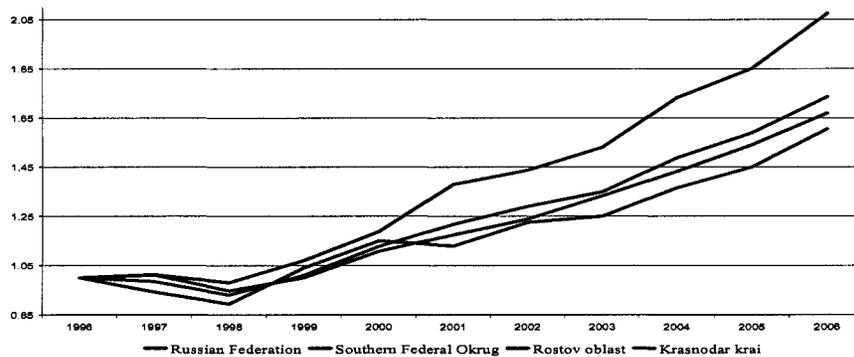
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<sup>1</sup> The terms “Rostov” and “Tver” are commonly used to refer either to the entire region (oblast) or the capital city of the region. In this chapter, we use the convention of “Rostov” or “Tver” to refer to the entire region, and “Rostov city” or “Tver city” to refer to the municipality.

### Box 3.1: Rostov Oblast

Rostov oblast has a territory of 101 thousand square kilometers and a current population of 4404 thousand people. It is situated in the Southern Federal Okrug of Russia, bordering the regions of Voronezh, Volgograd, Krasnodar, Stavropol, Kalmykia, and the country of Ukraine. Rostov has been one of the more rapidly growing Subjects of the Federation since the beginning of economic growth in Russia in the late 1990s. Cumulative Rostov GRP growth from 1996 to 2006 amounted to an estimated 108 percent, as compared to an average of 67 percent for Russia and 73 percent for SFO. In Krasnodar Krai, a comparable more developed southern region, GRP growth (60 percent) was only roughly half of that in Rostov Oblast.

Figure B.1: Cumulative GRP growth (%), 1996=1



This rapid growth reflects a number of economic advantages relative to many other regions in Russia. Rostov has a favorable geographic location, with a relatively warm climate, fertile agriculture, an abundance of coal and some other natural resources, and a foreign border. Rostov also has a strong SME sector, and is a significant center of education. Rostov has experienced an uncommon degree of political stability under a strong regional leadership for the last 16 years. Conflicts between regional and municipal bodies, which have been problematic in a number of Russian regions, appear much less pronounced in Rostov. In contrast to a number of large Russian cities that have been experiencing marked population decline, the population of the city of Rostov has been relatively stable, which reflects its position as a center of economic opportunity in the densely-populated Russian South. As the capital of the strategically important Southern Federal Okrug, the city of Rostov also receives exceptional political attention from the federal government, which hopes that a thriving Rostov, as well as Krasnodar, may help to pull up neighboring ethnic republics that continue to suffer from poverty, internal conflicts, and political instability.

Interviews with entrepreneurs, business, and civil society confirm perceptions of many of these advantages in Rostov, particularly the relative stability of “rules of the game” for business. Under these rules of the game, a number of smaller businesses are able to compete relatively free of interference, which has contributed to a relatively well developed service sector in the region. On the other hand, larger firms typically operate in close cooperation with the regional administration. While corruption is perceived as significant, larger businesses nevertheless praise the fact that informal relations between business and state organs have become more stable and predictable.

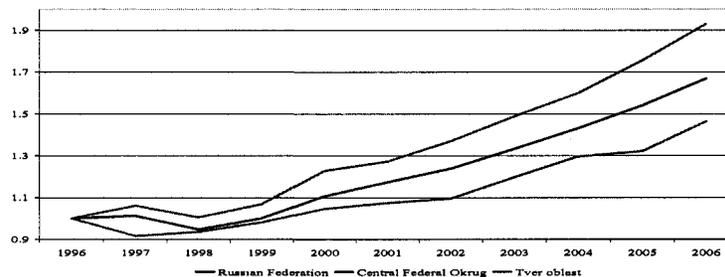
Rostov still faces some serious development challenges. Although a rapidly growing region, Rostov is relatively poor, with average incomes 25 percent below the Russian average. Some of this discrepancy is likely due to a relatively large informal economy and unreported incomes, which is a challenge to the region, in and of itself. Investment rates at 20 percent of GRP are rather low in Rostov, considering the rapid growth that the region has been experiencing. The neighboring Krasnodar region, for example, invests 28 percent of GRP, and had attracted cumulative foreign investment of US\$ 3.2 billion from 1996-2006, as opposed to only US\$ 344 million in Rostov. A large share of economic activity in Rostov is oriented only to the regional market. Like a number of other regions in Russia, Rostov has yet to cross the threshold from a growth agglomeration feeding largely off the internal regional market to a region with strong competitive niches on the greater Russian and world markets.

### Box 3.2: Tver Oblast

Tver oblast has a territory of 84.2 thousand square kilometers and a population of 1390.4 thousand people. Its large geographic size can be associated with a lot of diversity within the region. Some parts of Tver are virtually part of the greater Moscow region, while other parts are quite remote and provincial. Tver is a region richly endowed with water and forests, is the main natural source of fresh water for Central Russia, and possesses a substantial stock of mineral resources. Tver industry is characterized by a number of very large plants inherited from the Soviet period, including electricity and the production of train cars. Although the Tver region, like Rostov, has average household income that is about 25 percent below the Russian average, it also has a relatively low poverty rate (According to estimates using NOBUS data, the poverty headcount in Tver stood at 20 percent in 2003, as opposed to 23 percent for Russia as a whole).

In contrast to Rostov, Tver's takeoff into rapid growth has been a very recent phenomenon. Tver was a relative underperformer in the growth that began from 1999-2002. Cumulative Tver GRP growth from 1996-2006 amounted to an estimated 46 percent, which can be compared to 67 percent for Russia as a whole. Growth has since accelerated, however, particularly since 2006, when GRP growth apparently exceeded 10 percent. The recent growth is no doubt related to increasing demand and economic interest in Tver coming from the booming greater Moscow region and, to some degree, the agglomeration around Saint Petersburg. An important change in political leadership in Tver oblast in 2004 supported a shift toward a more outward looking economic strategy aimed at attracting investment to the region.

**Figure B.2 Cumulative GRP Growth in Tver Oblast, the Central Federal Okrug, and the Russian Federation**



Cumulative per capita foreign investment in Tver oblast for 1996-2006 amounted to only US\$ 35.5, as compared to an average in the Central Federal Okrug (excluding Moscow) of US\$ 250. FDI has picked up notably in recent years, however, along with the economic expansion. In 2007 alone, Tver received an estimated US\$ 77.9 million in foreign direct investment.

The rapid recent penetration of Tver by Moscow and other outside capital can be associated with significant social and economic tensions. Rentals and property values have soared in the Tver region in recent years, particularly in areas closer to Moscow. This has placed a number of local entrepreneurs who rent their premises in a very difficult position. There have been open protests in the region with demands for more protection of local businesses. Although the Tver region leadership appears intent on realizing an economic transition that would bring more outside capital to the region and fully integrate it with the surrounding booming economy, it faces a difficult task in managing the social tensions and short-run costs of this strategy.

While Tver has a very advantageous geographical position on the road between Moscow and Saint Petersburg, it is still in competition with other regions in the Central Federal Okrug that possess the same kind of advantages. A primary question for Tver's future is the degree to which it succeeds in becoming a center of economic growth itself, as opposed to a peripheral area that services Moscow and Saint Petersburg.

3.4 This CEM conducted business surveys in both the Tver and Rostov regions with the primary goal of identifying the sources of, and constraints to, growth at the regional level. Surveys of 421 firms in Tver and 535 firms in Rostov were conducted in 2007 according to the same methodology as BEEPS that has been conducted by the World Bank and the European Bank for Reconstruction and Development (EBRD) in East Europe and the former Soviet Union every three years since 1999. The survey also included other questions that are more specific to issues of regional development and the activities of firms. More complete write-ups of these surveys, including details on the samples, can be found in World Bank (2008a, 2008b). This section summarizes a few of the results of this survey that are particularly relevant for understanding the challenges facing emerging fast-growing Russian regions such as Rostov and Tver.

## **B. THE BUSINESS SURVEY**

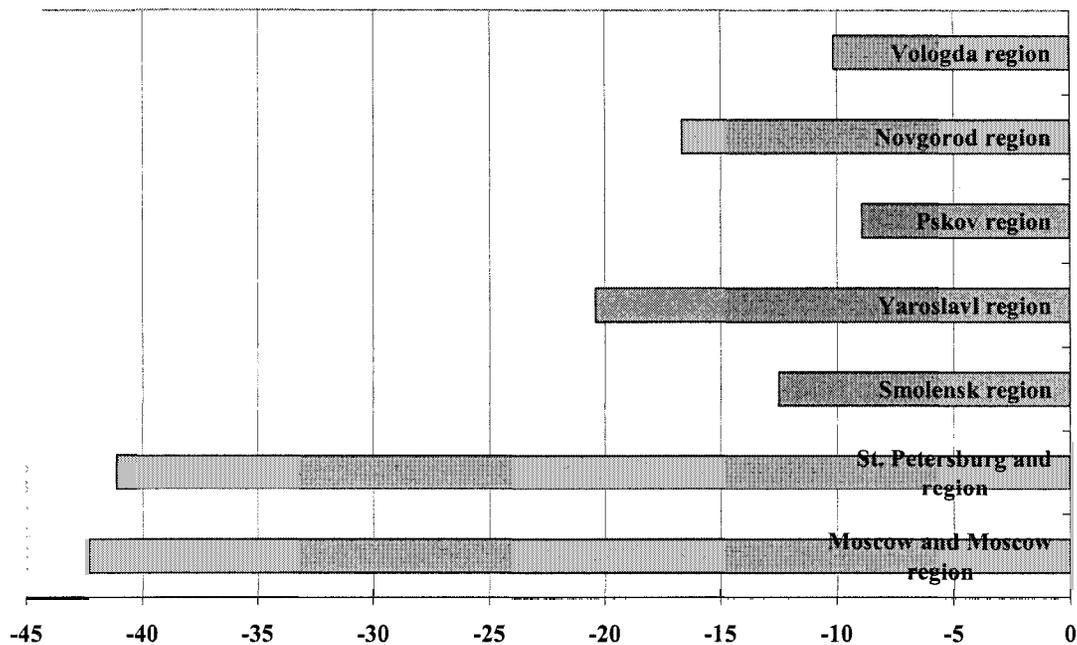
3.5 The sample for the survey was chosen according to the same methodology as BEEPS, and corresponds closely to the structure of the regional economies. The breakdown of the samples by sector was similar for Rostov and Tver, although Rostov has a somewhat greater representation in trade relative to goods production in comparison with Tver, corresponding to the structures of the regional economies. BEEPS gives particular attention to entrepreneurs and small businesses. Seventy and fifty two percent of the firms in the Rostov and Tver surveys, respectively, had fewer than 50 employees. This is important for the interpretation of the results, as economic developments often affect larger and smaller businesses differently. When necessary, an attempt is made to distinguish these cases.

### **The Business Climate in Tver and Rostov – General Perceptions**

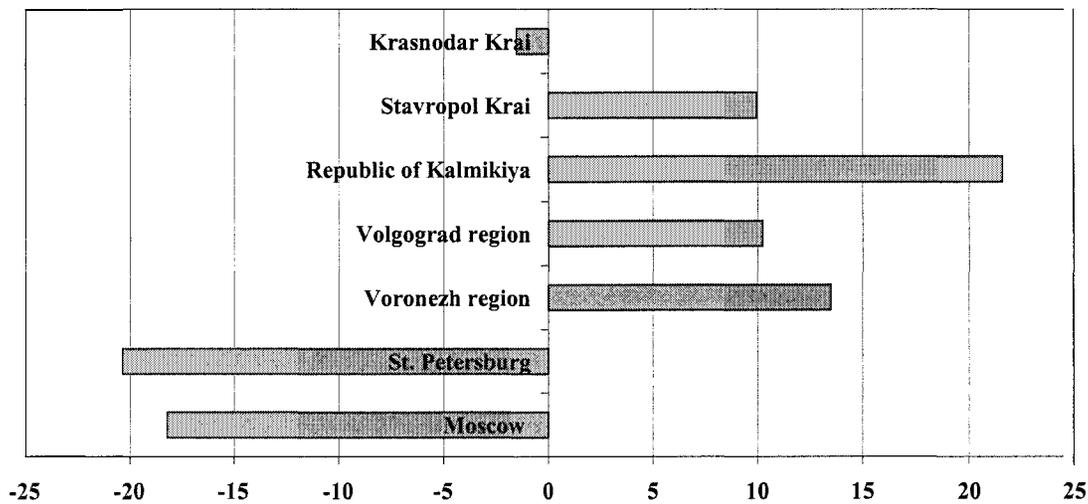
3.6 Entrepreneurs were asked their general assessments of the business climate of the region, how it has changed in recent years, and its comparison with Moscow, Saint Petersburg, and surrounding regions. This question was meant to capture subjective perceptions, as opposed to actual reliable information, as many businesses may have only very limited information about business conditions in other regions. In fact, close to 20 percent of entrepreneurs in both Rostov and Tver refused to answer this question for that reason. Nevertheless, these sorts of perceptions themselves can be key elements of the business climate.

3.7 On this note, it is interesting that entrepreneurs in Rostov evaluate their local business climate relative to surrounding regions significantly more favorably than those in Tver (Figures 3.1 and 3.2). Two important reasons for this may be (a) regions surrounding Tver are generally in a more advantageous economic situation than those surrounding Rostov and (b) the particularly strong tensions in Tver associated with the recent spread of the Moscow agglomeration. Entrepreneurs in both regions generally perceive that the business environment in Moscow or Saint Petersburg is better than in their region. Yet, Rostov entrepreneurs felt that their own business environment is preferable to that in the geographically close regions of Voronezh, Volgograd, Kalmykia, Stavropol, and comparable to that in Krasnodar. On balance, Tver entrepreneurs rated their local environment worse than in neighboring Vologda, Novgorod, Pskov, Yaroslavl, and Smolensk. Furthermore, pessimistic attitudes toward the business climate of the region relative to its neighbors were common among firms of all size in Tver, in contrast to Rostov, where larger firms were notably more optimistic in this regard. In each case, the number on the chart measures the net percentage of answers that rate the climate of the region better (plus) or worse (negative) than in a given neighboring region.

**Figure 3.1: Net Percentage of Tver Entrepreneurs Claiming that the Business Environment in their Region is Better (Positive) or Worse (Negative) than in a Given Other Region**

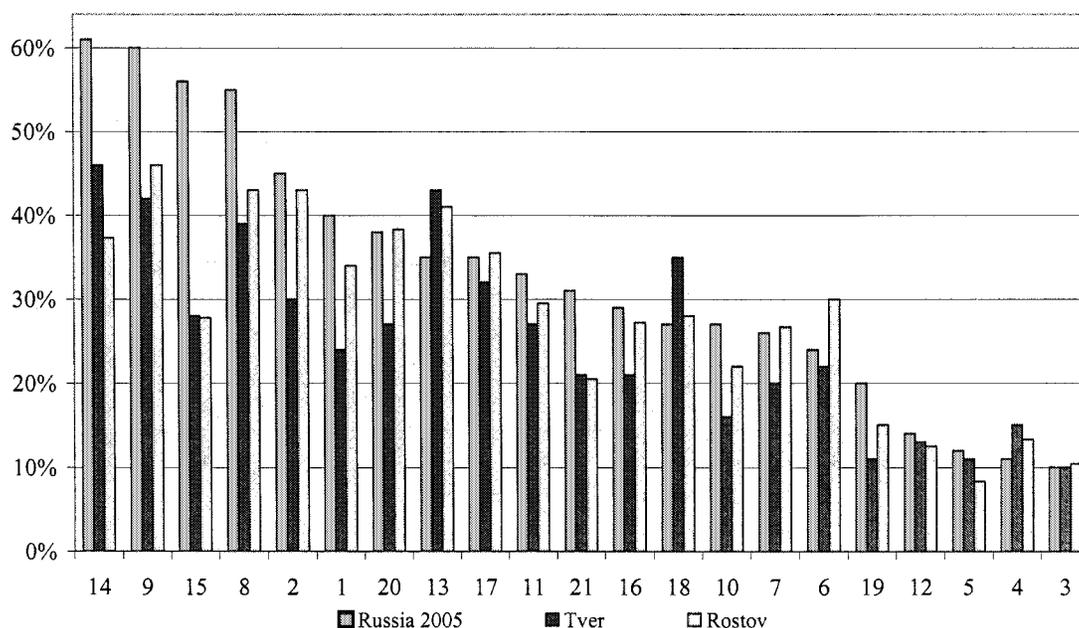


**Figure 3.2: Net Percentage of Rostov Entrepreneurs Claiming that the Business Environment in their Regions is Better (Positive) or Worse (Negative) than in a Given Other Region**



3.8 Following the BEEPs survey, entrepreneurs in Tver and Rostov answered questions about barriers to business in a number of different categories. The Figure below indicates the shares of firms in Rostov, Tver, and Russia (2005) as a whole that indicated a particular problem as being a significant barrier to business.

**Figure 3.3: The Share of Entrepreneurs Indicating that a Given Problem is a Serious Impediment to Business (Tver (2007), Rostov (2007), Russia (2005))**



1-Access to finance; 2-Cost of finance; 3-Telecommunications; 4-Electricity; 5-Transport; 6-Access to land; 7-Land right or lease; 8-Tax rates; 9-Tax policy; 10-Rules of customs and trade; 11-Licenses and approvals; 12-Labor legislation; 13-Work habits and education level in the labor market; 14-Instability of macroeconomic policy; 15-Instability of macroeconomic conditions (inflation, exchange rate); 16-Functioning of the judicial system; 17-Corruption; 18-Street crime/robbery/disorder; 19-Organized crime/mafia; 20-Monopolistic practices; 21-Breaches of contractual agreements.

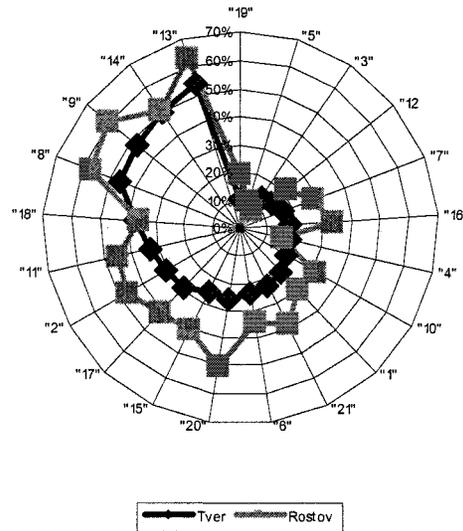
3.9 As can be seen in Figure 3.3, the evaluation of the business climate by entrepreneurs in Tver and Rostov is largely consistent with that for Russia as a whole in 2005, although more favorable in a number of areas. Some of these more favorable responses, including the macroeconomic stability, macroeconomic policy stability, and taxation, might be explained by time as opposed to geography. These areas have improved for the country as a whole since the all-Russia survey of 2005. Similarly, the Russian labor market has tightened considerably since 2005, which is no doubt reflected in a larger share of complaints from both Tver and Rostov about the labor market and shortages of skilled labor. The forthcoming national BEEPS survey of 2008 will most likely confirm these trends for the entire country.

3.10 A most notable difference between Rostov and Tver concerns the perceptions of larger and smaller businesses. In Tver, this difference was not large. In Rostov, by contrast, small entrepreneurs gave considerably more optimistic assessments of the business climate than did their larger counterparts. This is visible in Figure 3.4, which graphs only the assessments only of medium and large-sized enterprises of the barriers listed above. Medium and large-sized enterprises in Tver appear considerably less concerned about barriers to business than their counterparts in Rostov. As argued by Shaffer et al, this does not, in and of itself, imply that these barriers are more serious for larger businesses in Rostov.<sup>2</sup> But it does imply that alleviating these

<sup>2</sup> Shaffer et al (2007) demonstrate a very important regularity that more productive and competitive firms tend to complain more about business climate constraints (other than access to finance) than do other firms. Thus, more

constraints would probably have a particularly strong positive impact on larger businesses in Rostov.

**Figure 3.4: The Share of Medium and Large Enterprises in Tver and Rostov that Indicated a Given Constraint is a Serious Impediment to their Business**



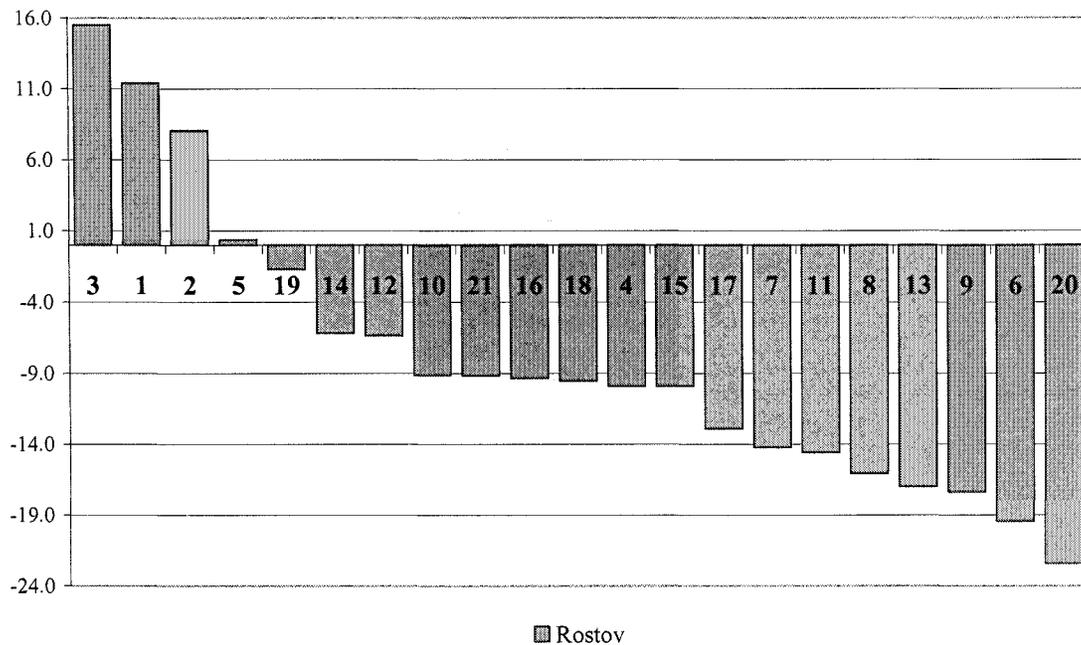
1-Access to finance; 2-Cost of finance; 3-Telecommunications; 4-Electricity; 5-Transport; 6-Access to land; 7-Land right or lease; 8-Tax rates; 9-Tax policy; 10-Rules of customs and trade; 11-Licenses and approvals; 12-Labor legislation; 13-Work habits and education level in the labor market; 14-Instability of macroeconomic policy; 15-Instability of macroeconomic conditions (inflation, exchange rate); 16-Functioning of the judicial system; 17-Corruption; 18-Street crime/robbery/disorder; 19-Organized crime/mafia; 20-Monopolistic practices; 21-Breaches of contractual agreements.

3.11 Interestingly enough, entrepreneurs in both Tver and Rostov did not give very favorable responses about changes in the regional business climate since 2005-2006. Many entrepreneurs in both regions perceived little change. Among those that did, the balance of answers was negative in all areas except access to outside finance and utilities (Figure 3.5). Responses in Rostov were somewhat more pessimistic than those in Tver. Part of the explanation for these negative perceptions may be the increased competitive pressures that many firms in Tver and Rostov have faced in recent years associated with the appreciation of the ruble, the penetration of the local market by outside capital, and the tightening of the labor market. It is somewhat disturbing, however, that some of the areas of greatest perceived deterioration correspond to variables related to market institutions and law and order: violations of contractual agreements, unfair competitive practices, corruption, criminality, and the functioning of the court system. While greater competitive pressures, in and of themselves, might explain much of the perception of an increase in “unfair competition,” most of these other variables should have a positive dynamic in a region that is making steady progress to an open market economy. One possible reason for this regularity is that, as the Russian economy experiences rapid growth and

complaints in one region relative to another could be due to worse constraints (negative) or to the presence of more highly productive firms (positive).

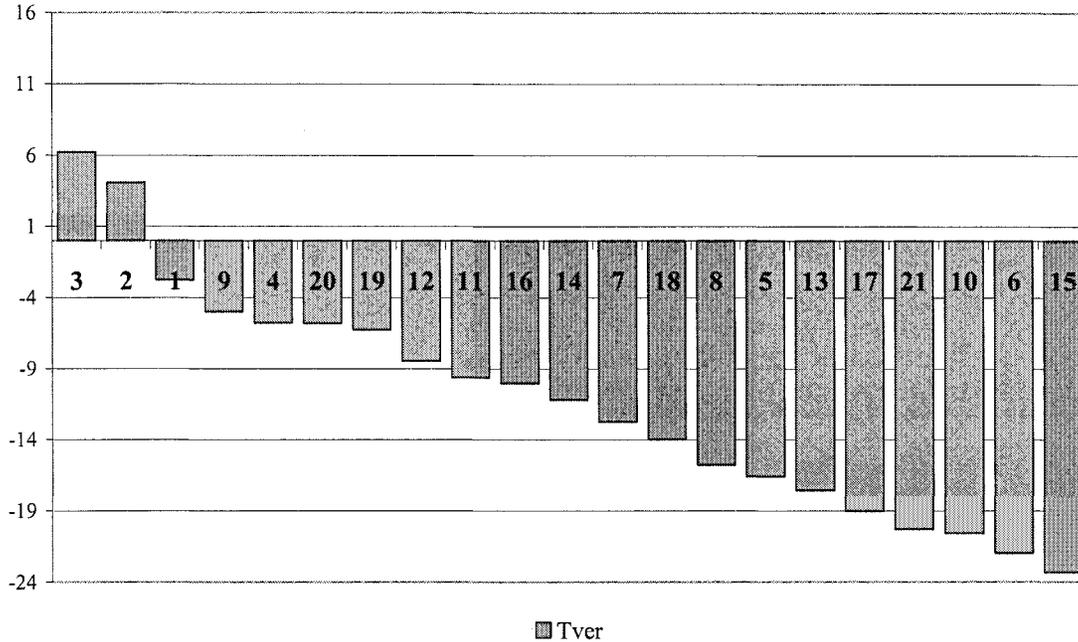
development, the demand for developed market institutions is increasing, and thus institutional weaknesses are becoming more notable and problematic.

**Figure 3.5: Perceptions of Rostov Entrepreneurs of Changes in the Business Climate in the Regions During 2005-2006 (Net Percentage Indicating Worsening (Negative) or Improvement (Positive))**



1 - Cost of Funds ( interest rate, fees), 2 – Telecommunication, 3 – Financing, 4 - Labor legislation, 5 – Electricity, 6 - Unfair competition of other market players, 7 - Macroeconomics volatility ( Inflation, Exchange rate), 8 – Corruption, 9 - Organized crime/ Mafia, 10 - Tax rates, 11 - Functioning of judiciary, 12 - Land title and leasing, 13 - Street crime/theft/disorder, 14 - Land access, 15 - Skills and education level on labor market, 16 - Customs and trade regulations, 17 - Economic policy volatility, 18 - Licensing & permits, 19 – Transport, 20 - Contractual arrangements violations by customers and suppliers, 21 - Tax policy

**Figure 3.6: Perceptions of Tver Entrepreneurs of Changes in the Business Climate in the Regions During 2005-2006 (Net Percentage Indicating Worsening (Negative) or Improvement (Positive))**



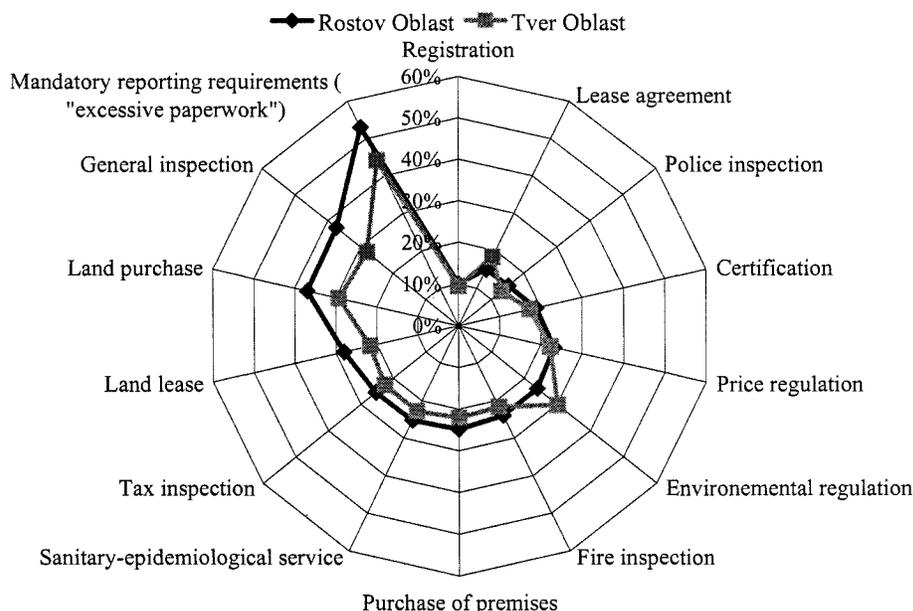
1 - Cost of Funds ( interest rate, fees), 2 - Telecommunication, 3 - Financing, 4 - Labor legislation, 5 - Electricity, 6 - Unfair competition of other market players, 7 - Macroeconomics volatility (Inflation, Exchange rate), 8 - Corruption, 9 - Organized crime/ Mafia, 10 - Tax rates, 11 - Functioning of judiciary, 12 - Land title and leasing, 13 - Street crime/theft/disorder, 14 - Land access, 15 - Skills and education level on labor market, 16 - Customs and trade regulations, 17 - Economic policy volatility, 18 - Licensing & permits, 19 - Transport, 20 - Contractual arrangements violations by customers and suppliers, 21 - Tax policy

***Administrative Barriers to Business***

3.12 Many business surveys give particular attention to so-called “administrative barriers to business,” as these refer to processes or institutions that are largely under control of government: red tape and administrative procedures for registration, licensing, certification, land access or ownership, price regulations, consumer or ecological standards, and various state inspections. A “debureacratization” campaign of the federal government since 2001 has sought to reduce these barriers. This campaign appears to have met with some success, although progress since 2003 has been much more modest.<sup>3</sup> Such administrative barriers continue to be cited by businesses as important impediments to their activities throughout Russia. Perceptions in Rostov on the relative severity of such barriers mirror closely those in Tver (Figure 3.7). Interestingly enough, in both regions, the largest share of entrepreneurs complained about a major burden of “paper work” in preparing various required statements and accounts. This problem also received a larger number of complaints in Rostov than in Tver, as did the general problem of various inspections and procedures for gaining access to land. A relatively high number of complaints in Rostov about various inspections is consistent with evidence, also revealed in the survey, that larger firms in Rostov experience more inspections, on average, than in Tver or Russia as a whole.

<sup>3</sup> SEFIR (2007).

**Figure 3.7: The Share of Respondents in Rostov and Tver that Indicate a Given Administrative Barrier is a Significant Impediment to Business (% of Responses)**

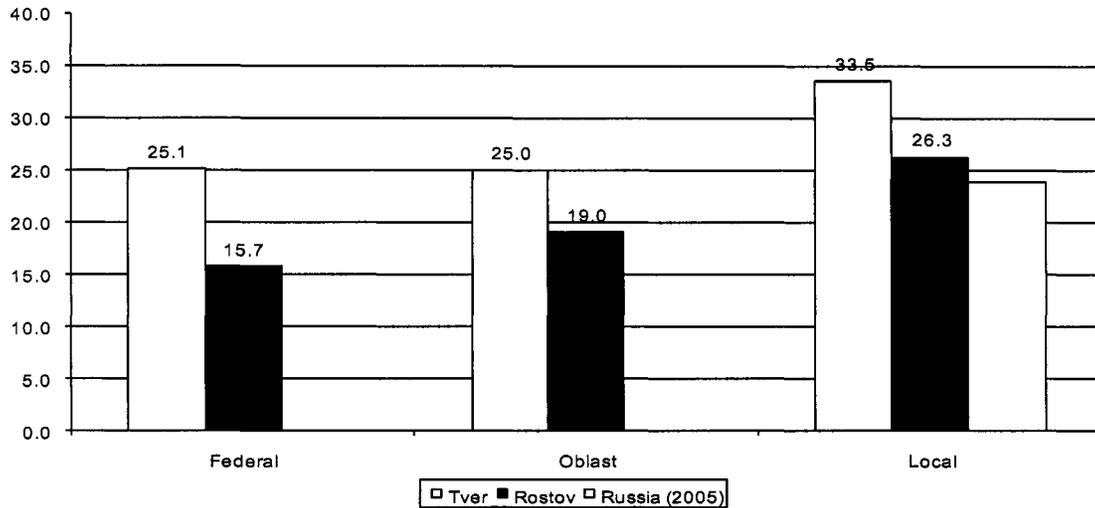


### ***The Court System and Relations with State Authorities***

3.13 The development of an effective and impartial judiciary system has proved to be one of the most difficult tasks of economic transition. Progress is certainly visible. Russian firms have been using the courts much more often for the resolution of disputes. This is very much true for Rostov and Tver. In fact, a considerably larger share of Tver (45%) and Rostov (40%) firms reported to have been either defendants or initiated court cases in the last two years than was the case for Russia as a whole in 2005 (27%). It is an interesting question as to the degree that this might be the general case in rapidly growing regions. At the same time, like their counterparts in the rest of Russia, entrepreneurs in Rostov and Tver are rather skeptical about the impartiality of the courts. Rostov entrepreneurs appear a bit more optimistic: Forty eight percent of Rostov entrepreneurs and 40 percent of Tver firms agreed partially or fully with the statement “I feel confident that the judicial system will defend my property rights and business agreements.” Only minorities of firms in Rostov and Tver believe that the court system can be characterized as fair, uncorrupted, or easy to access. Despite this pessimism, these numbers were slightly better than those obtained for Russia as a whole in 2005, particularly those for Rostov.

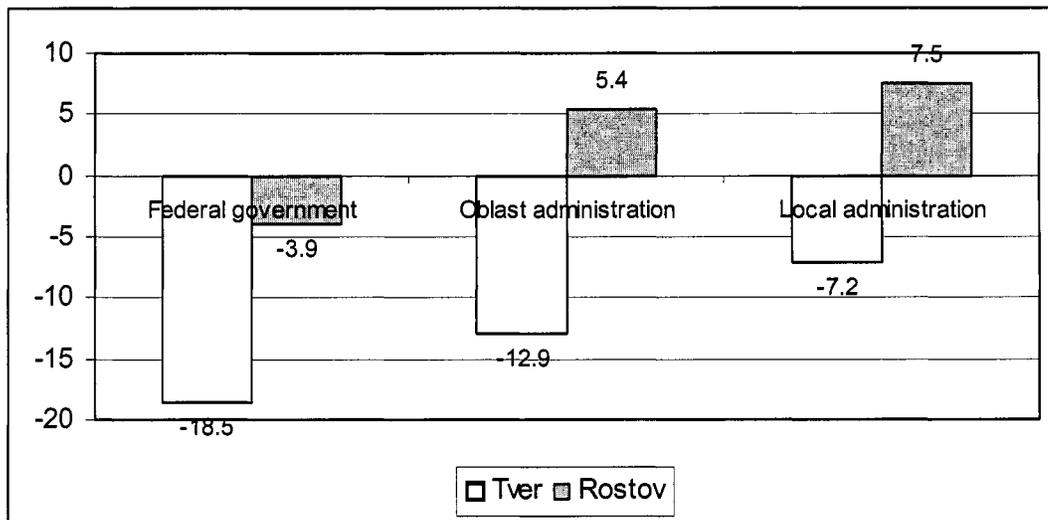
3.14 The relative optimism of Rostov entrepreneurs vanishes, however, when asked about their vulnerability to the whims of state officials. When asked about the possibility of overturning a decision in violation of norms or laws made by a state official through an appeal to another body or higher authority without resort to bribery, Rostov firms showed even more pessimism than their counterparts in Tver or Russia. The situation in Tver from this point of view is relatively encouraging, with 33 percent confident of overturning such a decision made by a local government and 25 percent for the regional or federal government. Perhaps this is related to stronger divisions in the power structure within the Tver region that could enhance opportunities for appeals to alternative bodies.

**Figure 3.8: The Share (%) of Entrepreneurs in Rostov, Tver, and Russia (2005) that Believe it Possible to Overturn a Decision in Violation of Norms or Laws made by a State Official Through an Appeal to Another Body or Higher Authority Without Resort to Bribery**



3.15 Despite the results reported in Figure 3.9, Rostov firms appear to have a much more favorable assessment of the influence of different levels of government on their business than do firms in Tver. The assessments of larger firms in Rostov were also substantially more positive than those of smaller firms. This is quite consistent with anecdotal evidence that the business model in Rostov is based on close relations between larger firms and government. In Tver, by contrast, the balance of perceptions of state influence on business is negative. When asked about perceptions of changes in business-government relations over the past two years, there was a strong difference in responses in both Tver and Rostov between small and larger businesses, with larger businesses perceiving net improvements, particularly in relations with local and regional authorities, and smaller businesses perceiving little change or net deterioration.

**Figure 3.9: The Net Assessments of Rostov and Tver Entrepreneurs on the Influence of Different Levels of Government on Their Business**



## ***Competition and Growth***

3.16 The questionnaire included a number of questions on competition, competitive pressures, and their relationship to firm behavior. A primary result of the recent Investment Climate Assessment (ICA) of the Russian Federation is that competitive pressures can be positively associated with technical progress, i.e. those firms facing greater competitive pressures engage more frequently in innovative activities or modernization.<sup>4</sup> A related study that made use of the ICA dataset suggested a certain bifurcation of Russian enterprises into very different groups, including highly competitive firms, usually active on all-Russian or international markets, and firms of much lower productivity oriented only toward local markets.<sup>5</sup>

3.17 Rostov and Tver oblasts appear consistent with this picture. In both Rostov and Tver, one third of all firms responded that they do not experience significant competitive pressures at all. A slightly higher percentage of firms in Tver (43 percent) than in Rostov (38 percent) indicated that they experience significant outside competitive pressures from Moscow, Saint Petersburg, or foreign firms. The remaining group of firms (between ¼ and 1/3) responded that they experience competitive pressures only from local firms operating in the region.<sup>6</sup>

3.18 In general, entrepreneurs in Rostov are a bit more concerned with competitive pressures than their counterparts in Tver. This is illustrated in Figure 3.10 below. Among types of competitive pressures, only those from Moscow and Saint Petersburg are perceived as roughly comparable in Tver as in Rostov. Given Tver's geographic position, it is rather surprising that the pressures from Moscow and Saint Petersburg are not perceived as greater than in Rostov. Pressures coming from import competition, other firms in the region, and firms in other regions are all perceived as significant by a larger share of firms in Rostov than in Tver.

3.19 As might be expected, industrial firms and larger firms report somewhat more significant outside competition. Medium and larger enterprises also report more competition with imports and outside firms on average than do smaller enterprises in both regions. But even less than half of larger firms in Rostov and Tver report significant competitive pressures from imports. Over 50 percent of medium-large Rostov firms, and close to 70 percent of medium-large Tver entrepreneurs, do report significant competition with outside firms, however.

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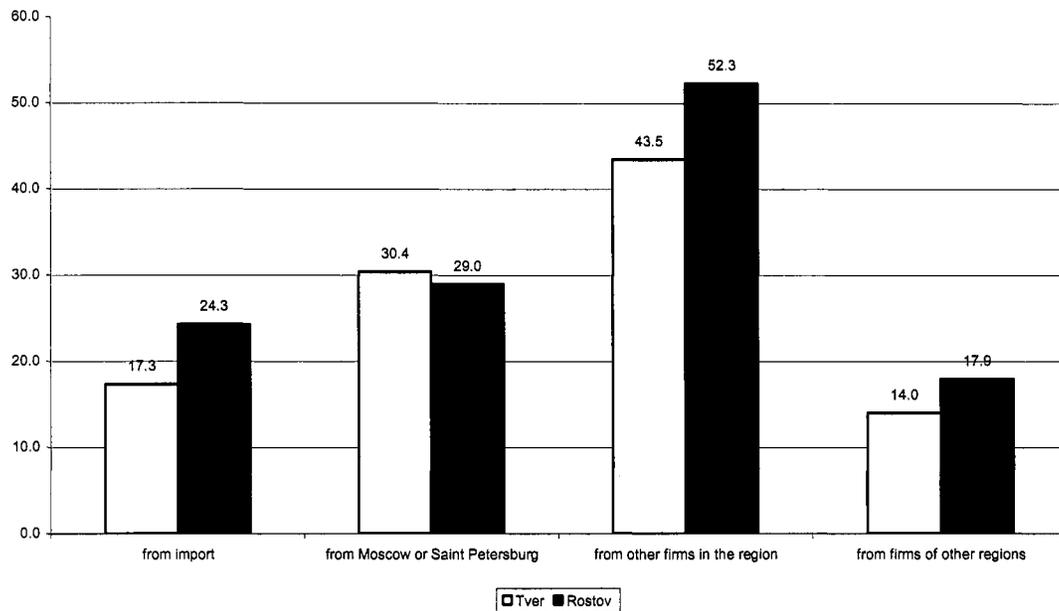
<sup>4</sup> Desai and Golberg (2007).

<sup>5</sup> *Russian Firms at the Crossroads* (2007).

<sup>6</sup> The surprising low share of Russian firms experiencing competitive pressures is consistent with at least two other recent surveys carried out in the country, the Investment Climate Assessment survey (the results written up in *Russian Firms at the Crossroads...*(2007)) and Fry and Yakovlev (2007), who conducted a survey of firms in Moscow, Bashkortostan, Voronezh, Nizhny Novgorod, Sverdlovsk, Smolensk, and Tula.

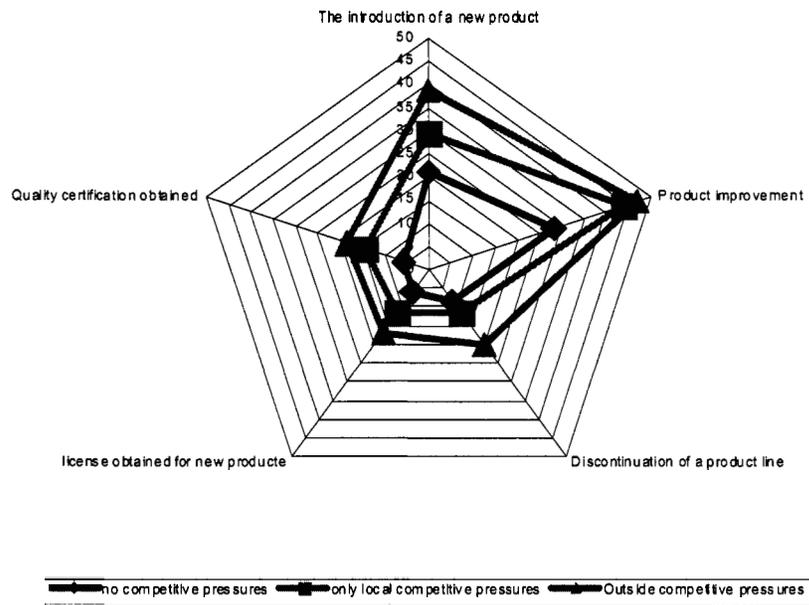
**Figure 3.10: Perceived Competitive Pressures in Rostov and Tver: The Share (%) of Respondents Indicating that Competitive Pressures from a Given Source are Significant**

Sverd

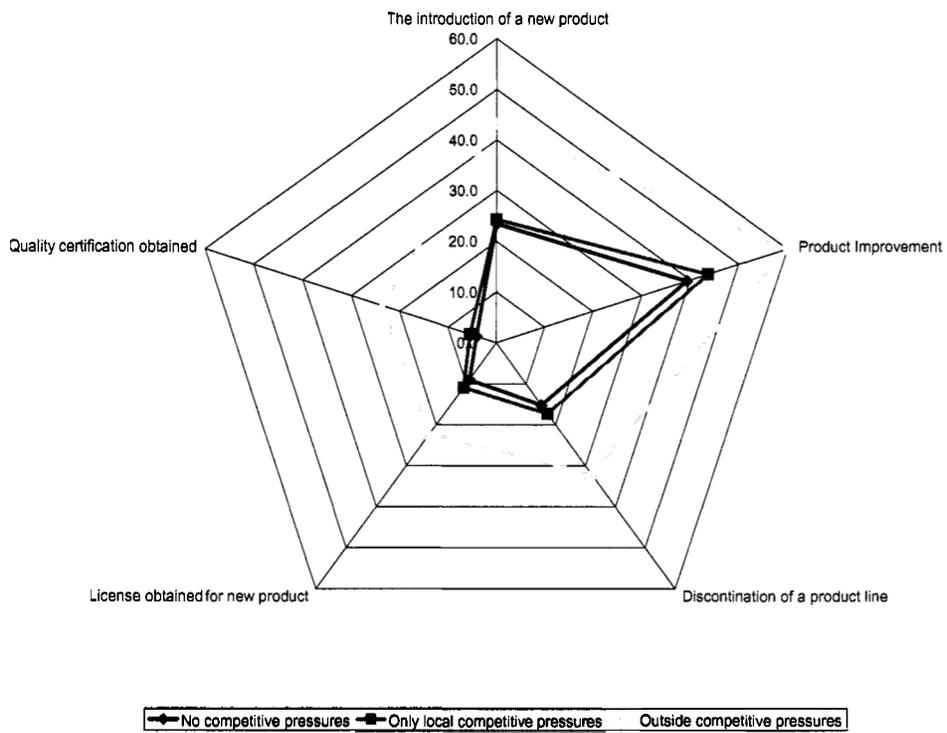


3.20 The ICA presented evidence that the presence of competitive pressures in Russia can be a stimulus to restructuring and technical progress at the enterprise level. The data from Rostov and Tver are quite consistent with this notion, and give even stronger such evidence. Figure 16 illustrates the relationship between the status of “no competitive pressures,” “only local competitive pressures,” and “outside competitive pressures” with the percentage of enterprises that undertook activities associated with restructuring, technical progress, or innovation. More competitive pressures can be associated with a greater share of such activities. The low share of restructuring or modernization activities taken by the “no competition” group in Rostov is particularly notable. In Tver, no real distinction emerged between the “no competitive pressures” and “only local competitive pressures,” but the distinction between these categories and “outside competitive pressures” is even more pronounced (Figures 3.10 & 3.11).

**Figure 3.11: The Share (%) of Respondents in Rostov Engaging in a Given Activity Differentiated by Responses to Questions on Competitive Pressures**

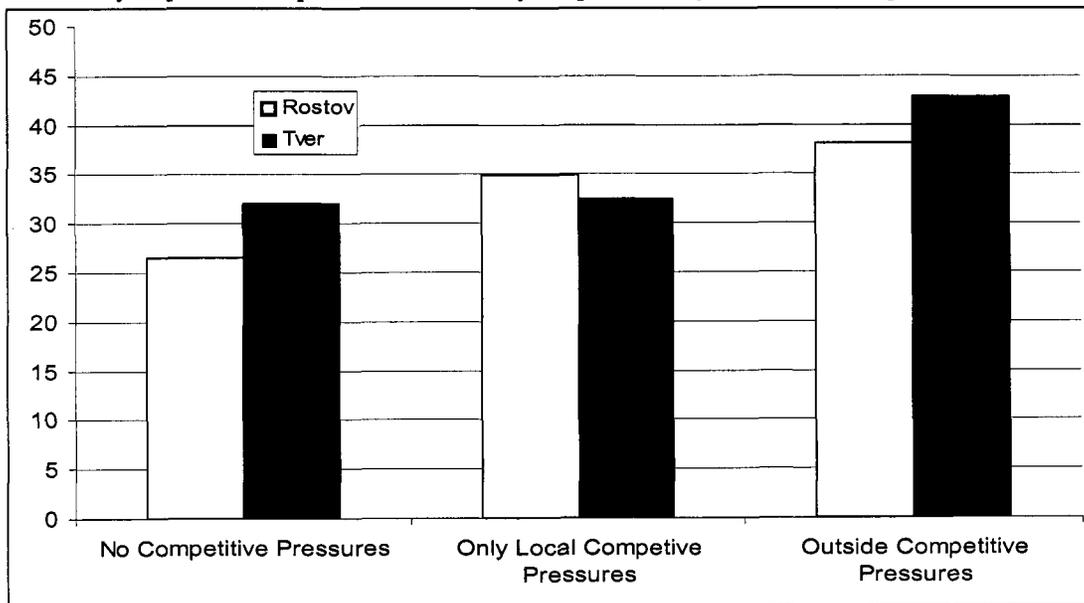


**Figure 3.12: The Share (%) of Respondents in Tver Engaging in a Given Activity Differentiated by Responses to Questions on Competitive Pressures**

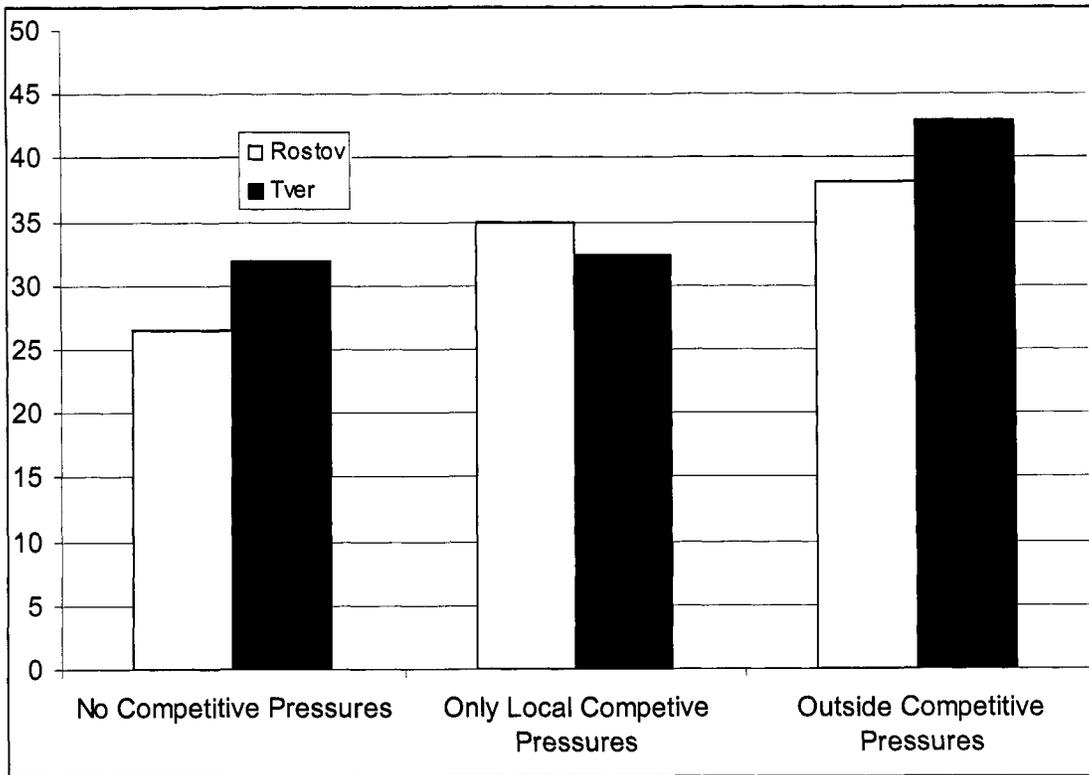


3.21 To what degree can greater competitive pressures be associated with growth in output or investment in specific firms? The shares of Rostov and Tver firms in the sample reporting growth in output in 2005-2006 were 58 and 69 percent, respectively. As could be expected, reported output growth is strongly correlated with reported investment, although roughly half of all firms in both regions reporting significant output expansion did so without increasing their capital. The relationship between competitive pressures, output expansion, and capital expansion is given in Figures 3.13 and 3.14. This correlation is notably positive, particular for the case of outside competition and the expansion of capital. The same difference between Rostov and Tver noted for Figure 3.12 above is present in figures 3.13 and 3.14: the difference between “no competitive pressures” and “only local competitive pressures” is significant for Rostov but not for Tver. On the other hand, the group of firms subject to outside competition is quite distinct in the degree that they have expanded output and (especially) capital, particularly in Tver.

**Figure 3.13: Competition and Growth in Rostov and Tver Oblasts: The Share (%) of Firms that Recently Expanded Output Differentiated by Responses to Questions on Competitive Pressures**



**Figure 3.14: Competition and Investment in Rostov and Tver Oblasts: The Share (%) of Firms that Recently Expanded their Capital Differentiated by Responses to Questions on Competitive Pressures**



### C. CONCLUSION

3.22 This chapter examined questions pertaining to the business climate of two relatively poor Russian regions that have been experiencing rapid growth in recent years. Rostov has been a center of growth in the South of Russia since 1999, whereas growth in Tver has accelerated only recently with the spread of the Moscow and Saint Petersburg agglomerations. A regional level enterprise survey conducted in both regions offers information on the perceptions and activities of entrepreneurs in both regions.

- The survey is consistent with the picture of Rostov and Tver as growing regions largely hospitable to expanding business activities. Perceptions of barriers to business in these regions are consistent with, and somewhat more favorable, than those documented for Russia as a whole in 2005. Perceptions of changes in the business climate in recent years were not very favorable. Part of the reason for this may be the increased competitive pressures that both regions have faced in recent years. Pessimism in both regions about progress in the development of formal market institutions (the court system, competition policy, corruption) is somewhat disturbing. However, it follows the general pattern in recent business surveys for Russia.
- In the Tver region, perceptions of the business climate are fairly uniform across firms of different size. In Rostov, by contrast, smaller firms give significantly more favorable assessments of the business climate than do larger firms. Medium and larger-sized firms are much more concerned about business climate constraints than

are there counterparts in Tver. Interestingly enough, both Tver and Rostov entrepreneurs complain about excessive paper work more than any other administrative barrier to business, including various inspections. Larger Rostov firms would also appear to face a higher-than-average burden for Russia of various inspections. Rostov entrepreneurs generally rank the business climate in their region favorably in comparison to surrounding regions, whereas Tver firms do not.

- Although Rostov and Tver share the skepticism and mistrust of their counterparts in other regions about the court system, an impressive number of entrepreneurs in both regions do appeal to the courts for the settlement of many disputes. The skepticism becomes greater for overturning violations of laws or norms by government officials, particularly in Rostov. Tver entrepreneurs are notably more optimistic in this regard. In general, Rostov and Tver entrepreneurs have very different perceptions of the influence of various levels of government on economic activity, with the balance of influence perceived as positive in Rostov and negative in Tver.
- The results of the Rostov and Tver surveys give strong additional evidence of a positive relationship between competition (competitive pressures), on the one hand, and modernization (technical progress) and business expansion, on the other. Those firms that claim to face significant competitive pressures from firms outside of the region engage in significantly more activities associated with modernization, restructuring, and investment. In Rostov oblast, the difference between firms facing no significant competitive pressures and local (within the region) competitive pressures is also notable.

3.23 How should these results be interpreted for assessing the present and future prospects for the development of the Rostov and Tver regions? Both of these regions face social and economic tensions associated with rising outside competition. Despite the short-run costs of policies aimed at facilitating the integration of regional with larger markets, the survey provides direct evidence of potential benefits. It appears that the many of the firms in both regions that offers the most hope for sustaining rapid growth (those actively engaged in modernization, restructuring, and output expansion) are already competing on all Russian or international markets. Rostov and Tver will need to manage the short-run transition costs, which are particularly notable in Tver, but heavy-handed regional-level protectionist policies would most likely end up rewarding less promising firms and hindering the activities of the most promising.

3.24 The survey is also consistent with the general picture of Rostov as a region where informal relations can often be of more importance than explicit institutions. At the same time that many entrepreneurs note improvements in relations with authorities, there is a widespread perception of deterioration during 2005-2006 of precisely those variables that relate to the functioning of explicit institutions: unfair competitive practices, violations of contractual agreements, criminality, corruption, and the court system. Attitudes are particularly pessimistic in Rostov about possibility of overturning unfair decisions or violations made by state officials. The sustainability of Rostov's rapid growth into the medium term will most likely depend on the strengthening of explicit (impersonal) institutions relative to informal relations, which would make the region more attractive to outside investment and fair competition. As noted in Box 3.1, Rostov's recent record in economic growth has been far more impressive than in investment growth. This cannot be sustained indefinitely. Outside capital is needed.

3.25 Although the situation in Tver oblast looks to be somewhat different to that described above for Rostov, the future challenges are somewhat similar. An even larger share of firms in Tver look to be oriented only to local markets, and many operate under very limited competitive

pressures. Furthermore, in sharp contrast to Rostov, Tver entrepreneurs consider the business climate in their region to be generally worse than in surrounding regions. This difference could be due as much to being surrounded by regions with better business climates as opposed to a worse business climate in Tver than in Rostov. Yet this is part of Tver's dilemma. They are in a very advantageous geographical position for participating in the growing growth agglomeration in central Russia, but so are a number of other regions that are in direct competition with Tver for attracting capital and labor. Furthermore, many of these other regions got a head start on Tver by attracting substantial outside capital to their regions before 2005. This has made Tver's recent transition more radical and more disruptive to local interests than in a number of other regions in central Russia. The political divisions within Tver oblast, and the lack of a single omnipotent source of state power like in Rostov, appear to have made even larger businesses in the region more independent, and more willing to rely on the courts and other explicit institutions than in Rostov. Tver firms were much less favorable in their assessments of the influence of government on their business, although these answers are difficult to interpret in the current period of transition when many firms believe that the role of regional and local authorities should be protecting them from rising rentals or outside investors.

3.26 The rapidly-growing regions of Rostov and Tver unquestionably have strong future potential. So far, both regions have grown in a largely self-contained manner in response to rising demand in the region and neighboring regions. The creation of growth agglomerations in the southern and central parts of Russia have reinforced this growth, as described in Chapter 3. Yet both regions have yet to make the transition to developing highly competitive niches on all-Russian or world markets. The survey provides evidence suggesting that unleashing the potential of Rostov and Tver in that direction will depend on promoting competition and providing a business climate that is hospitable to market entry and investment

## **4. CONFRONTING THE CHALLENGES OF REGIONAL DEVELOPMENT IN THE RUSSIAN FEDERATION**

4.1 The exceptionally large size and diversity of the Russian Federation, together with the inherited legacy of Soviet planning, presents a somewhat unique set of challenges in regional development. While regional development has long been a major topic of debate in the country, the Russian government has yet to articulate a comprehensive strategy for meeting these challenges. This reflects the economic and political complexity of the issues involved, as well as some significant disagreements in Russian policy circles about the type of regional strategy that is needed. This chapter outlines some of the central economic issues involved, in light of the conclusions of the preceding chapters, and makes suggestions concerning some of the key building blocks for constructive strategy. A typology of economic policies is proposed, and particular attention is given to the critical and controversial issues of migration and regional development policy.

4.2 In fact, Russia has been already adopting a number of economic policies that are roughly consistent with common or best practices in promoting regional development, although the absence of a unifying national strategy may compromise coordination and consistency. Given the exceptional degree of uncertainty in Russia on the economic potential of many regions, the large number of settlements in lagging regions, and current increasing returns in areas of agglomeration, it is important that depressed regions are given the opportunity to realize initiatives themselves aimed at boosting productivity and growth. But an over-centralized approach that stifles regional and local initiatives will likely generate disappointing results.

### **A. RECENT INITIATIVES IN RUSSIA RELATED TO REGIONAL DEVELOPMENT**

4.3 The federal government had quite limited means in the 1990s to pursue any sort of regional development agenda. Major regional inequalities that emerged during this time, given very unequal inherited endowments for market competitiveness, were reinforced by the delegation of most social expenditures to the regional level. In this context, wealthier regions could maintain relatively generous per capita social expenditures, as opposed to many of the poorest regions that may have needed them the most.<sup>1</sup>

4.4 As indicated in Chapters 1 and 2, the very broad-based economic recovery of 1999-2003 can be associated with quite favorable conditions for rapid industrial growth in poorer regions. Thus, even without government intervention, poorer regions, on average, achieved relatively rapid growth and poverty reduction. Government policy initiatives concentrated on national issues of importance to most or all Russian regions, including macroeconomic stabilization, tax reform, and the business climate. Significant progress was also made in fiscal federalist relations, including a clarification in the division of budgetary autonomy, revenues, and expenditures. The formula-based transfer system was also modified to concentrate more federal assistance in the poorest regions.

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<sup>1</sup> On this point, see *OECD Economic Surveys...*(2000), Chapter 3.

4.5 In more recent years, concerns have increased in Russia over perceived growing regional inequality and disparities. The analysis of Chapters 1 & 2 suggests that, contrary to popular opinion in many circles, no major general trend toward regional inequality emerged during 2004-2006. During this time, quite a number of poorer Russian regions continued to exhibit relatively rapid growth. On the other hand, the analysis also confirmed that regional growth has become much more unevenly distributed among Russian regions, and that a considerable gap appears to be opening up between growth agglomerations in the European part of the country (Central, North Western, and Southern Okrugs) and most of the Eastern part of Russia. Furthermore, the evidence presented for the emergence of growth agglomerations in Russia suggests that there may be no automatic market mechanism for correcting inequalities between regions over the medium term in productivity, growth, and welfare.<sup>2</sup> Thus, future trends may very well revert to divergence. Some poorer regions in the Eastern and Northern part of the country are already suffering in this regard.

4.6 The Russian government has taken a number of initiatives in recent years to boost the policy agenda for regional development. In 2004, it created a Ministry of Regional Development. This Ministry began work almost immediately on a National Strategy for the Socio-Economic Development of Russian Regions. The first draft Strategy presented an ambitious agenda under the banner of rejecting equalization policies in favor of supporting points of growth and promoting agglomerations. It also called on individual regions to create their own development strategies in a manner consistent with the national strategy.<sup>3</sup> As of early 2007, Russian regions had submitted 54 such strategies, 13 of which were approved by Moscow.

4.7 The draft National Strategy of the Ministry of Regional Development generated a lot of controversy in Russian policy circles, particularly among those citing both economic and political reasons against the neglect of poorer or less fortunate regions. On the contrary, a number of specialists argue, growing contrasts among more and less fortunate regions present a threat to national cohesion and the welfare of a significant number of settlements.<sup>4</sup> In 2006, an alternative draft strategy was prepared by the Working Group for Complex Social-Economic Planning of the Development of Regions of the Government Council of the Russian Federation. This draft placed its emphasis on the “joint coordinated interaction of federal and regional organs for developing programs for the comprehensive social-economic development of the regions.”<sup>5</sup> The concept placed a lot of emphasis on the restoration of Soviet-type territorial planning at the federal and regional levels, and also generated significant controversy.

4.8 In this context, the Ministry of Regional Policy continued to push for a general consensus around a National Strategy, organizing a number of seminars in late 2006, encouraging debates within regions, and a convening a national conference in early 2007. A finalized National Strategy was to emerge following this conference. But remaining controversies proved too strong to achieve this objective.

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<sup>2</sup> Neoclassical economic theory presumes decreasing returns to scale to labor and capital within a given regional area. Under these conditions, the reallocation of capital from less productive to more productive regions will decrease the relative marginal returns in the leading regions, thus pushing the economy in the direction of an equilibrium where marginal returns are equalized. The presence of strong agglomeration effects, as suggested in the analysis in Chapters 1 and 2 for the case of Russia, implies increasing returns to scale over a wide range, and thus the gap between leading and lagging regions can naturally be expected to grow over time.

<sup>3</sup> “Concept for a Strategy..” (2006).

<sup>4</sup> See, for example, Zubarevsky (2007a).

<sup>5</sup> “On a Mechanism...” (2006).

4.9 The Ministry of Regional Policy received an important boost in its power and authority in 2007 for the (infrastructure) Investment Fund (formally under the sole management of the Ministry of Economic Development and Trade) and federal transfers to the regions (formally under the sole management of the Ministry of Finance). The new leadership of the Ministry of Regional Development would appear to have somewhat different views about the desired nature of a national strategy for regional development. In a recent interview, the new Minister of Regional Development indicated that achieving regionally balanced development is one of the top priorities of the Ministry.<sup>6</sup> Thus, a consensus strategy for regional development has still yet to emerge within the Russian government.

**Box 4.1: World Development Report 2009: Territorial Development**

The World Bank World Development Report for 2009 is devoted to the subject of territorial (regional) development, and will provide a large amount of valuable information on recent world experience and policy lessons. A few of the general emerging conclusions from this report are:

- Agglomeration effects are important. The spatial concentration of growth is common in most countries in the world, and is even stronger in developing countries. The concentration of economic mass is inevitable and generally desirable. With economic development, spatial concentration usually first rises, and then levels off as economies reach higher levels of income.
- Spatial disparities in living standards are neither desirable nor inevitable. They can be addressed through economic integration. Labor mobility is the strongest natural mechanism to enhance agglomeration economies and facilitate convergence. Balanced development may very well require unbalanced growth.
- Measures to facilitate integration include spatially-blind policies (not targeted to specific regions and facilitating the movement of people and capital toward opportunities), spatially connecting policies (infrastructure to better link regions and markets), and spatially-targeted policies (to support growth in specific regions).
- Policies for lagging regions should prioritize investments in people over measures to promote growth in the local economy. This includes social support (basic education, health, water and sanitation) for poverty reduction and the facilitation of out migration.
- Policies for leading regions should prioritize investments in places: transportation, telecommunications and other infrastructural investments that can increase the productivity of firms.

**B. A TYPOLOGY OF POLICIES FOR AFFECTING REGIONAL DEVELOPMENT**

4.10 A regional development strategy for Russia cannot avoid the goal of balancing various important economic and political priorities. This includes (a) the facilitation of growth points and agglomerations for increasing national economic growth, competitiveness, and living standards, (b) supporting minimal social standards in poorer areas of the country, (c) providing opportunities for lagging regions to realize their economic potential, (d) increasing opportunities for migration from regions with poor economic prospects, and (e) promoting economic development in regions of particular political priority. To balance these objectives, the policy mix should include:

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<sup>6</sup> “Three Projects are Already Approved, Six More are in Line to be (2007).”

- *Spatial policies.* Policies to defend the unified market and facilitate the mobility of labor and capital to areas of agglomeration and greater economic promise.
- *Interconnecting policies.* Infrastructure policies in areas such as transportation and telecommunications can link regional markets to the benefit of economic development.
- *(Social) equalization policies.* Policies to ensure the provision of minimal social services and support in poorer regions.
- *Regional (development) policies.* Policies aimed at facilitating growth (productivity) in specific regions.
- *Education policies.* Beyond the guarantee of minimal standards through equalization policies, additional investment (and reform) in education can increase overall economic opportunities for the population.

4.11 In addition to these areas, national policies aimed at economic stabilization, improving the overall business climate in the country, supplying public goods, and boosting the education and health levels of the population have obvious important general consequences for the development of Russian regions.

### **Spatial Policies**

4.12 Many spatial policies to facilitate the mobility of labor and capital to areas of greater economic promise correspond to the category of “spatially-blind policies” in the 2009 World Development Report that do not target or favor any particular region. For the Russian case, some important spatial policies could also be regionally targeted. For example, the desire to economize on infrastructure costs could motivate special programs for assisting the out migration of entire populations from specific cold and remote areas.

4.13 Both the inherited Soviet legacy and the spatial nature of recent growth in Russia imply that the attraction of people and capital to areas of agglomeration and greater economic promise is perhaps the single most critical regional issue for the successful rapid development of the country. The Soviet legacy concentrated settlements and capital in a number of remote or cold areas with very high costs of production/transportation and the maintenance of infrastructure. A number of these regions have substantial resource wealth, although the exploitation of this wealth does not require the type of extensive settlements present in Russia.<sup>7</sup> In this context, growth and welfare improvements in the transition period have been closely related to a natural and important process of migration from East to West, as well as the concentration of non-resource related private investment in the Western part of the country. Nevertheless, important barriers remain to the speed and efficiency of this process. The efficient territorial allocation and re-allocation of capital in Russia will depend on the continued rapid development of capital markets in the country. As the prospects for this development are good, this section will concentrate on the other particularly critical spatial issue for Russia: migration.

4.14 The most recent census of 2002 indicates a strong flow of migrants from Northern and Eastern regions to Western Russia. Despite a negative natural rate of population growth, the Central Federal District registered a net population gain of an estimated 0.2 percent between 1989

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<sup>7</sup> On this point, see Gaddy and Hill (2003).

and 2002 due to migration. On the other hand, the Eastern regions of Magadan and Chukotka experienced population declines of over 50 percent during the same period.<sup>8</sup> Thus, important progress in the spatial allocation of labor has already occurred. Nevertheless, many expert opinions suggest that this resettlement process has been too slow, given the high differentials in living standards between different areas in the Russian Federation. Despite the relaxation of urban registration requirements and the presence of much greater regional inequality, the pace of internal migration has not increased significantly in the post-Soviet period.<sup>9</sup> At the current pace, a substantial share of the population will remain in cold and remote areas for some time to come.

4.15 Along with internal migration, foreign migration into Russia represents another critical factor for future growth in the country. Russia is currently only second to the United States in the attraction of foreign migrants. The census of 2002 shows 11 million new migrants to Russia since the previous census of 1989 (5.6 million net migration). Actual migration has been significantly larger than this, as a good share of migration to Russia is informal. Experts believe the number of informal migrants during this period to have been in the range of 4-5 million individuals, or almost half the legal migrant number.<sup>10</sup> A large number of legal migrants have been ethnic Russians moving to the Russian Federation after the breakup of the Soviet Union. In fact, legal migration to Russia peaked in 1994 at 978,000, and declined to an average of only 87,000 from 2003-2005. While foreign migration to Russia has been quite substantial, and has been a key factor in maintaining a sufficient active labor population to support growth in the country, many argue that it is nevertheless inadequate for Russia's current needs. A number of experts expect Russia's population to shrink by close to 20 percent by 2050, which would require a compensating inflow of one million migrants a year, or three times the average official inflow over the last 15 years and five times the average official inflow in recent years.<sup>11</sup>

4.16 Even in the more promising European part of the country, most Russian cities continue to experience population decline, which is inconsistent with maintaining rapid economic growth and agglomerations. Outside of Moscow and Saint Petersburg, Russia is lacking larger cities relative to other countries of comparable population size.<sup>12</sup> The small net increase in population in the Central District between the 1989 and 2002 censuses is due almost entirely to the rapid expansion of Moscow and Moscow oblast. Virtually every other central Russian region experienced population decline during this period, and the loss in population reached over 10 percent in Pskov, Ivanovo, Tula, and Tver.<sup>13</sup> The evidence from Rostov and Tver, as presented in Chapter 3, suggests that labor market constraints are becoming an increasing constraint to sustaining growth in the agglomeration areas of Russia. Given the complex demographic situation in Russia, regions unable to attract significant numbers of internal and external migrants will most likely be unable to sustain rapid growth. Thus, the facilitation of migration, both internal and foreign, is crucial for sustaining rapid (regional) growth in Russia.<sup>14</sup>

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<sup>8</sup> Heleniak (2003).

<sup>9</sup> Gerber (2005) examines 7167 residential histories, and comes to the conclusion that migration flows in Russia have not accelerated in response to greater post-Soviet freedom of mobility, greater wage differentials, or unemployment rates.

<sup>10</sup> Andrienko and Guriev (2005).

<sup>11</sup> Ibid.

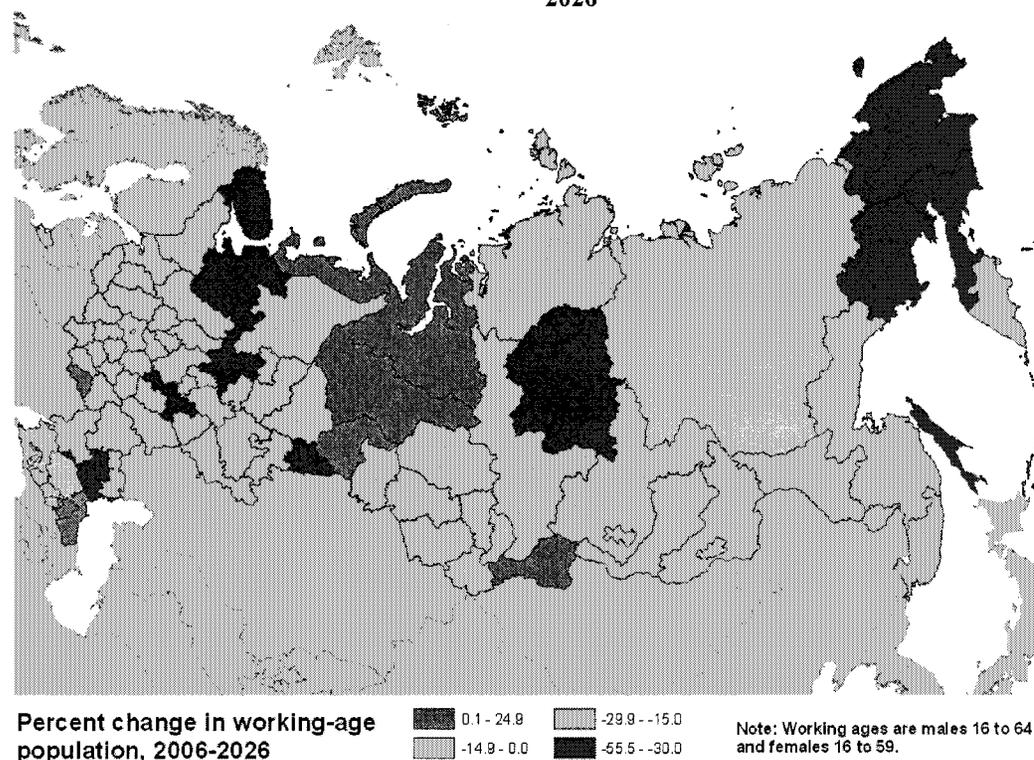
<sup>12</sup> Russia fails to follow Zipf's law that is observed in most countries of the world. This law shows a common almost linear relationship between the rank order of cities by population size and the log of the population. Russia lacks large cities other than Moscow and Saint Petersburg, and therefore lies below Zipf's curve. See Gaddy and Hill (2003).

<sup>13</sup> Heleniak (2003).

<sup>14</sup> Perov (2008) also argues that the 2003 Law on Local Self-Government may also be restricting the growth of larger cities by making municipal boundaries more rigid.

4.17 This conclusion is confirmed by projections for regional growth of the working age population through the year 2026 that were performed for this CEM under a rather optimistic set of assumptions relative to expert opinions: an overall decline in population by 8.4 million (5.9 percent), a steady rise in the fertility rate to 1.65, a gradual increase in average life expectancy to 68.2 years, and an a slight acceleration of net migration from the Eastern to the Western part of the country consistent with past observed patterns. Even under these assumptions, the working age population would decline by over 15 percent in most of central Russia (Figure 4.1). Regions that sustain rapid growth over this period will most likely need to compensate for this decline through the attraction of substantially more migrants than in the past.<sup>15</sup>

**Figure 4.1: Projected Percentage Change in Working-Age Population by Region in Russia: 2006-2026**



4.18 What are the barriers to more rapid internal migration flows? In every country, large (voluntary) movements of people take time, and can be associated with substantial social and psychological stress. Thus, even under an optimal policy mix to facilitate migration, the problem of numerous poor and backward settlements in Russia will persist as a key issue for many years to come. Andrienko and Guriev (2004) present evidence to the effect that migration out of poorer areas in Russia may actually be an increasing function of local income levels, suggesting that a number of Russian citizens are stuck in poverty traps. They lack the minimal income necessary to migrate to a more promising area. This would also be consistent with the evidence discussed above to the effect that the pace of migration has not picked up in the post-Soviet period, despite a widening of income and employment differentials.

<sup>15</sup> Taken from Heleniak (2006) (Background paper for the CEM).

4.19 The housing market is certainly a key constraint on migration in Russia. The privatization process transferred the majority of housing to occupants, which became a windfall for those living in areas of economic promise, but has left many other citizens in remote regions without the means to afford increasingly expensive housing in areas of economic booms. More generally, booming cities such as Moscow and Saint Petersburg have faced serious challenges in increasing housing and other infrastructure in pace with economic growth. Other constraints on migration can be associated with the labor market. While the Russian labor market exhibits a significant amount of (largely informal) flexibility, some authors suggest that important rigidities nevertheless remain that require attention. In particular, even after the adoption of a new and more liberal Labor Code, there appear to remain excessive costs and hassles for employers associated with releasing workers, which find reflection in a common cautious attitude toward hiring.<sup>16</sup> Finally, there are the issues of regional protectionism that can limit competition and the free movement of capital to the detriment of sustaining rapid growth in the most promising areas. The cases of Rostov and Tver, as examined in Chapter 3, are instructive of the political and social pressures surrounding the opening up of Russian regions that had been formerly very internally oriented.

4.20 Important economic policies for the resolution of the above issues include priority infrastructure projects for growth points to accommodate inflows of migrants (including affordable housing),<sup>17</sup> labor market policies, and effective implementation of the Competition Law to defend and preserve the unified space of the Russian Federation. Special government programs for potential migrants may also play a supporting role.

4.21 Like a number of other countries that attract a substantial number of foreign migrants, Russia must weight difficult social, political, and economic issues while adapting policies in this area. Considering Russia's demographic situation, the country is quite fortunate that its relatively high standard of living in the greater region makes it a magnet for migrants within the CIS. An aging and shrinking population makes Russia comparable to the countries of Western Europe in this regard: there is a strong need for migrants to augment the labor force, but social tensions place limits on policies to liberalize the (formal) migration regime. In this regard, it should be noted that the balance of net advantages to Russia from external migrants may be greater than those in Western European countries for several reasons: (a) the demographic crisis (aging and population decline) is greater in Russia than in Western Europe, and the need to sustain rapid growth is also more pressing, (b) Russia has a large pool of potential migrants with a fluent command of Russian and other similar (post-Soviet) social attributes that allow for a more harmonious assimilation to work and life in Russia, and (c) Russia does not have an expensive and generous social safety net for unemployed migrants (a primary source of tension surrounding migration in the West).

4.22 A World Bank Policy Note of 2005 outlines important directions for improving migration policy, in particular the liberalization of the official regime along with a crackdown on illegal migration.<sup>18</sup> This policy mix would have the potential of attracting a migrant pool with a better skill profiles for Russia and alleviating social tensions that currently exist around illegal migrants. Russia is indeed following a policy consistent with these two directions, although there is a risk is that the official regime could remain sufficiently restrictive to negate the net benefits from a

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<sup>16</sup> This is described in detail in Gimpelson and Kapeliushnikov ed. (2005), Chapter 1.

<sup>17</sup> Russia has indeed made affordable housing a priority policy area, although the focus so far has been on facilitating the purchase of housing, rather than the provision of affordable rentals. For potential migrants from poorer regions, the latter is also quite important (See Rental Choice and Housing Policy...2005).

<sup>18</sup> Andrienko and Guriev (2005).

crackdown on illegal migrants, i.e. it is not in Russia's economic interest to adopt a regime that would cause a decline in net inflows of migrants, especially over the medium term when the demographic crisis in the country will reach its apex.

4.23 Attitudes toward external migrants in regional and local administrations are typically quite cautious or negative. While these attitudes are understandable, there nevertheless appears to be a common insufficient understanding at the regional level of the importance of attracting strong inflows of labor, as well as capital, to points of potential or emerging growth. Many regions have come to understand that their economic future depends very much on the attraction of outside capital. Yet this future depends just as much on attracting labor.<sup>19</sup>

### **Interconnecting Policies**

4.24 Infrastructure has long been recognized as a key factor in regional and economic development, and represents a primary channel through which the government can promote competitiveness and productivity growth. Improvements in infrastructure can not only improve the development prospects of a given regions, but may have benefits for multiple regions, including critical linkages in markets and the reduction of transportation costs.

4.25 On the other hand, the results of Chapter 2 suggest that infrastructure density, in and of itself, may not contribute much to growth at the regional level. The 2009 World Development Report also emphasizes that a number of expensive and ambitious infrastructure projects have had little impact in practice. It is therefore critical that decisions on infrastructural investments are made on the basis of a careful assessment of the overall development impact of each specific project. This assessment should focus on the degree to which the absence of key infrastructure is currently a genuine constraint on growth or the integration of markets. The benefits of infrastructure for connecting markets should also be weighed against alternative directions of infrastructure investments. Often, infrastructure investments in areas of growth agglomeration can offer a higher return than those in more remote regions.<sup>20</sup>

4.26 Better transportation linkages between regions should generally have a positive impact on economic growth and development. The specific impact at the level of a single region can sometimes be ambiguous, however. There exist examples from the EU where better transportation linkages of a lagging region with a leading region actually had a negative impact on economic development in the former. Given the better transportation linkages, many businesses actually moved their operations out of lagging region in favor of using the improved transportation network for accessing the market from the leading region, where advantages of agglomeration can be exploited.

### **(Social) Equalization Policies**

4.27 Measures to ensure minimal social (and living) standards in poorer regions properly belong to the category of social policy, as opposed to regional development policies. Yet the coordination of these policies with a national strategy for regional development would be important. Equalization policies aimed at supporting the social sphere are often confused in Russian debates with policies aimed at equalizing development or growth in different regions. Such latter measures belong to category of regional (development) policies discussed below. Confusion between these two types of equalization policies may have been a primary source of

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<sup>19</sup> Some of the prevailing attitudes toward migration are summarized and criticized in Karachurina (2006).

<sup>20</sup> See Brown et al (2008).

contention in the discussion of the various drafts of the National Regional Strategy in Russia during 2005-2007. While a regional strategy focused on promoting growth points and agglomerations does indeed entail the rejection of alternative policies aimed at equalizing regional development, the need for social equalization policies could become even greater under the former strategy. Given limitations in the speed of migration, promoting unbalanced growth can actually increase the challenge of addressing poverty in lagging regions. Given the fact that basic social expenditures are largely the responsibility of regional and local governments in Russia, equalization transfers have major significance for maintaining minimal standards in lagging regions.

4.28 The actual levels and stability of equalization transfers do have important direct implications for regional development, however. If the goal is to promote migration to growth points, benefits should not be set at levels high enough to discourage out migration. If the goal is to encourage initiatives aimed at igniting regional growth and development, then benefits should not be “soft” in the sense of adjusting quickly to reallocate funds from more successful to less successful regions. The equalization formula was developed in Russia with the aim of satisfying both of these criteria, although the additional allocation of transfers and federal loans outside of the formula-based equalization fund should also be scrutinized from this point of view.

### **Regional Development Policies**

4.29 State policies aimed at igniting or promoting economic development in specific, usually poorer, regions represent one of the most controversial areas of economic policy. Any country considering embarking on this path would do well to study the lessons of a very mixed, and predominantly disappointing, history. The reasons for past failures are numerous, including limited information in the government about true regional economic potential, distortions of the allocation of factors away from true comparative advantage, the adverse effect of subsidies on economic incentives, and the inevitable politicization of decisions about which regions to support. Long histories of disappointment include decades of efforts in Italy and Brazil to ignite growth in the respective Southern and Northern regions of the countries, which did not succeed in reducing significantly the North-South gap in either case.<sup>21</sup> The greatest success story in regional policy may be China. However, the circumstances in this case were unusual. China introduced market reforms and lowered taxes only in the Southern regions of the country, which produced an economic boom in those regions at a time when Northern areas remained largely under the planned economy. Market reform in China began in the South, and gradually moved North.

4.30 The World Bank produced a report in 2007 on the experience of regional development policies and their potential role for poverty reduction in Eastern Europe and the former Soviet Union.<sup>22</sup> This report concluded that the efficacy of regional development policy is rather questionable, and that other policies may prove more effective in addressing the problems of regional pockets of poverty (facilitating migration, social spending, and investing in people rather than places (education policies)). This conclusion is also echoed in the preliminary results of the

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<sup>21</sup> On the experience of Italy, see Barca (2001). For the case of Brazil, see Ferreira (2005). Ferreira concludes that even some of the isolated so-called successes in Brazil can be called into question because of their economic costs. For, example a free economic zone succeeded in increasing investment and growth in Manaus, but at the expensive of economic development in surrounding regions. For an interesting and balanced comparison of the experiences in Spain, Italy, and Brazil, see Perez and Rowland (2005).

<sup>22</sup> Dillinger (2007).

forthcoming 2009 World Development Report: “countries should prioritize investments in *people*.”<sup>23</sup>

4.31 Nevertheless, many larger countries with regional development problems have pressed on with regional policy, although the lessons of the past have supported a consensus around a set of new principles, summarized below, that are strikingly different than in the past. Given the complexities, risks, and past disappointments, Russia might first ask itself the question as to whether or not it really needs regional development policies. Some would argue that measures to assist the working of market forces in the efficient allocation and reallocation of factors, together with the provision of public goods, social equalization and education policies, would be sufficient to ensure a healthy process of regional development in the country. On the other hand, arguments in favor of a regional policy for Russia could cite the following considerations:

- Some areas of the country (the Far East, the South, border areas) are prioritized for economic development for political as well as economic reasons. Given the constraints of whatever political decisions are made in this regard, Russia should pursue the most economically efficient means for realizing the implied development priorities.
- Russia is in need of strong urban agglomerations outside of Moscow and Saint Petersburg, while alternative cities face demographic challenges for attracting and accommodating sufficient migrants. Under certain circumstances, state interventions (social infrastructure, for example) could help to support such agglomerations. This concerns the type of regional policy outlined in the former draft National Strategy that is focused on growth points rather than lagging regions.
- At this point in transition, a significant amount of uncertainty exists about the economic potential of many Russian regions. This is arguably greater than the uncertainty that exists in countries where the initial allocation of capital and settlements followed market forces. Increasing returns associated with agglomeration economies can prevent regions that currently lack such agglomerations to compete effectively with other regions and realize their potential. Thus, it may be expedient to seek and promote mechanisms for revealing and realizing this hidden potential where it exists.
- The substantial social and economic costs of massive internal migration increase the opportunity costs in Russia of not revealing hidden potential in lagging regions. Although many settlements in Russia may have not been established under market forces alone, that in itself is not proof that they should be dismantled. Given that people and capital already exist in these places, finding successful development paths in at least some of them could be of considerable value to Russia.
- Some recent studies emphasize the possible expedience of cooperation between the federal government, subnational administrations, and the local business community for the revelation of local information and coordination of decisions, particularly those pertaining to the particular mix of local public goods needed for productivity growth.<sup>24</sup>

4.32 The extent to which Russia adopts regional development policies to address these issues presents a difficult political choice with significant pros and cons. To the degree that Russia does

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<sup>23</sup> World Development Report 2009 (2008).

<sup>24</sup> A strong argument for this approach is made in Barca (2007b). It also reflects parallel thinking about the “new industrial policy” (Rodrik, 2004).

decide to pursue policies of this nature, it would be well advised to base its approach on the principles of the so-called new regional policy, which incorporate important lessons from past experience. For the case of Russia, the recent experience of the European Union in the allocation of Structure Funds is particularly instructive, and consistent with trends in regional policy elsewhere in the world.<sup>25</sup> Although the explicit focus of regional policy in the European Union is to promote development in lagging and poorer regions, the overall approach developed could be potentially generalized to the case of regional policies targeted to leading regions and growth agglomerations. It should be emphasized that the results of the new regional policy in practice in the EU and elsewhere are controversial and, for many observers, unconvincing,<sup>26</sup> although it could be argued that the time horizon is still too short for proper empirical testing.

4.33 The new regional policy begins from the premise that past traditional regional policy has been largely ineffective. In the words of Fabrizio Barca (2007a), the traditional policy could be characterized as compensating for regional gaps in productivity by providing sectoral public goods and/or subsidies to firms or labor.” By contrast, the new regional policy aims at “increasing productivity by providing integrated baskets of local public goods through (mostly) local and regional projects devised and selected according to standards agreed at the national and/or supranational level.” This complex definition has the following key component parts:

- The overall goal of new regional policy is to increase productivity, not compensate for lower productivity.
- The new regional policy generally provides local public goods (infrastructure, regulation, coordination) as opposed to financial subsidies to economic organizations.
- The new regional policy supports initiatives coming from regional or local levels, consistent with national priorities, through a competitive process.

4.34 These principles are similar to those associated with the “new industrial policy.” Policy in this context can be conceived as a joint attempt by federal, regional, and local authorities to work together with investors and the local business community to reveal information about projects of potential promise for regional development, and then coordinate decisions around their realization. As the federal government has only very limited information about regional potential, the actual initiatives should be quite decentralized, coming from regional/local officials, investors, and entrepreneurs. The federal government selects proposed projects according to a competitive process in line with national priorities.

4.35 The primary role of government here is in coordinating this overall process and providing key local public goods for the success of the project. “Local public goods” can be understood very broadly as ranging from key physical infrastructure, to the implementation and enforcement of key regulations, and to helping attract key investors to the region. A critical element to the success of this type of policy is the realization that quite a number (probably the majority) of such projects will not succeed, and a strong mechanism is needed to ensure unsuccessful projects will not be funded for too long a time. The general goal is the continual reallocation of support from less successful to more successful projects. As an example, this is what the EU has done in the case of Southern Italy (the Mezzogiorno) through a particular system of sanctions and

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<sup>25</sup> For a general critical survey of the EU approach, see Funk and Pizzati ed. (2003). See also Barca (2001, 2007). Granberg (2000) offers a general examination of the relevance of the experience of the EU in regional development for Russia.

<sup>26</sup> See, for example, see the discussion in the special issue of the *Journal of Regional Studies* no. 2, April, 2006.

premiums.<sup>27</sup> By implication, the new industry policy requires an effective mechanism for monitoring results.

### **Education Policies**

4.36 While social (equalization) policies can have a direct impact on the quality of education, a number of countries have adopted additional programs aimed at boosting educational opportunities in lagging regions. Although these policies can be regionally oriented, this represents investment in people rather than places, per se. A better educated and qualified population will generally have better opportunities not only for employment within a given region, but for migration to other more promising regions. Ireland and India are among countries that many observers believe had particularly successful national education programs.

4.37 Most important for the success of such education policies is that the training provided is linked directly to the labor market and the needs of the economy. The common absence of such a strong link has been a particular problem in Russia during the transition period, and is the major target of education reform in the country.

### **C. A NATIONAL REGIONAL STRATEGY FOR RUSSIA?**

4.38 The above considerations suggest some central elements of a constructive national regional strategy for Russia. Of course, the particular chosen mix of these elements will require the consideration of complicated and important tradeoffs.

- Sustaining rapid growth and welfare improvements in Russia depends critically on the continued flow of capital and migrants to areas of high economic promise and agglomeration. These flows appear to be insufficient and imperfectly regulated at the present time. Thus, additional government policies to facilitate these flows could be important in areas such as migration policy, housing and social infrastructure, labor market policies, and competition policy.
- Maintaining strong and stable social equalization transfers will be a means of sustaining minimal living and service standards in lagging regions. These transfers should not be so high or unstable as to discourage either out migration from these regions, or the active pursuit by local authorities and entrepreneurs of a successful development strategy. This support may decline over time in harmony with other policies to realize out migration or regional development initiatives.
- Given the extent of informational and social problems associated with settlements in lagging regions, it is critical that local authorities and entrepreneurs are given incentives and opportunities to realize their own initiatives aimed at improving their situation. Furthermore, Russia could make a political choice to support these initiatives consistent with national objectives through federal programs based on the principles of new regional policy. Given the current nature of agglomeration effects in Russia today, regions may not succeed in realizing their potential through market forces alone.
- Key infrastructural investments to improve market linkages, facilitate factor mobility, and improve the prospects for regions with genuine economic promise.

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<sup>27</sup> Barca (2007a).

4.39 These considerations are broadly consistent with many of the directions that Russia has been moving in recent years. This includes the contemplation and attempted drafting of a comprehensive National Regional Strategy, the solicitation of regional strategies in harmony with national priorities, and the allocation of a number of national instruments to regions on a competitive basis, including the location of special economic zones and IT parks and infrastructural investments from the Investment Fund. New developments in territorial planning place a strong emphasis on developing a broad dialog between different levels of government and local business. Special national projects have been introduced for the priority regions of the South and the Far East. Other measures have targeted migration, including a simplification of registration procedures for some cases and the provision of amnesty to a number of illegal migrants. Equalization transfers are concentrated in poorer regions by a formula that allows only limited adjustments in transfers to current economic conditions. Education reform has also been prioritized. Recent policy declarations on regional policy prioritize infrastructure, human capital, and other productivity-enhancing investments over subsidies to low productivity firms. However, Russia has not yet adopted a strategy for regional development that would allow it to employ these and other policy instruments in a coordinated and consistent way.

4.40 For the important goal of giving incentives and opportunities to lagging regions to realize their potential, Russia currently faces a particular challenge. As stressed above, the inherently decentralized nature of information on regional potential implies that success in this area will depend greatly on genuine decentralized initiatives for increasing productivity. While agglomeration points are key to regional growth, an attempt by the central government itself to choose future points of growth and design its own detailed regional programs would likely be highly unsuccessful. In this regard, Gianfranco Viesti, an acute observer of regional policy in Italy and the EU, lists three of the primary reasons for the failure of past regional policy to be “top-down technocratic planning, no local responsibility, and political intermediation of resources.”<sup>28</sup>

4.41 Since 2000, Moscow has assimilated increasingly greater power relative to the regions. Perhaps the most important decision in this regard was the elimination of direct gubernatorial elections in 2004 in favor of the presidential appointment of regional governors. In this context, the balance of political priorities of the regional leadership has shifted in the direction of pleasing superiors in Moscow relative to constituents within the region. On the one hand, the new willingness of the regions to cooperate strongly with Moscow offers better opportunities for coordination and cooperation in the realization of regional initiatives. On the other hand, too strong a hand of the center can also breed strong risk aversion among local and regional officials for pushing ahead with their own initiatives. The exercise in drafting regional growth strategies in Russia was informative from this point of view. Some regions took this process very seriously and were deeply engaged. Other regions did little more than go through the motions as a means of complying with the demands of Moscow. A fundamental principle for the success of a regional development strategy in Russia is that the system rewards innovation and genuine decentralized initiatives as opposed to passive obedience.

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<sup>28</sup> Gianfranco Viesti lists these as three of six primary reasons that regional policy was unsuccessful from 1951-1992. The other three are “the independence of regional policy from overall sectoral and growth policy, the centrality of financial grants to firms, and increasing emphasis on transfers to households. Viesti (2006). See also Haussmann and Rodrik (2003) on the importance of decentralized initiatives (self-discovery) for the rationale of development policies. An interesting discussion of the problem of potential overcentralization in a Russian approach to regional policy can be found in Zubarevich (2005).

## Appendix

### Summary table for the statistical regression, See Polyakov (2007) for more details

The left column indicates the exogenous variables considered in the regression, the middle column indicates the share of variation in regional growth explained by the regression, and the right column shows the coefficient value for the estimated spatial spillover, i.e. if this number is .35, then one additional percentage of growth in other regions weighted by the market potential matrix will generate .35 percent growth on average in a given region.

Coefficient Significance	Spat Squared Corr.	Spatial Spillover Coefficient (its p-value if over .10)
Dependent variable: ave. growth rate, 1999-04 (independent variables in logs)		
<b>GRP per capita, 1998</b>		
Good	.10	.34 -- .44
<b>GRP per capita, 1998; fuel abundance</b>		
Good	.18	.32 -- .50
<b>GRP per capita, 1998; ave. 1999-04 investment rate</b>		
Good	.16	.30 (.14)
<b>GRP per capita, 1998; ave. 1999-04 investment rate; fuel abundance</b>		
Good	.20	.34 -- .40
<b>GRP per capita, 1998; urban agglomeration</b>		
Good	.23	.30 (.14)
<b>GRP per capita, 1998; urban agglomeration; fuel abundance</b>		
Good	.30	.36 -- .46
<b>GRP per capita, 1998; urban agglomeration; ave. 1999-04 investment rate; fuel abundance</b>		
d_fuel significant @.17 in ols but significant @.08 in spat	.32	.32 (.11)
<b>GRP per capita, 1998; urban agglomeration; Fuel abundance; port</b>		
Good	.32	.256(.20)
(with investment risk index 1998 by RA Expert)		
<b>GRP per capita, 1998; fuel abundance; inv risk index</b>		
Good	.20	.29 -- .41
<b>GRP per capita, 1998; ave. 1999-04 investment rate; inv risk index</b>		
Good	.17	.30 (.18)
<b>GRP per capita, 1998; ave. 1999-04 investment rate; fuel abundance; inv risk index</b>		
Good	.19	.29 -- .35
<b>Dependent variable: ave. investment rate, 1999-04</b>		
<b>Port; fuel abundance; ave. temp. in January</b>		
Good in ols;	.26 ols	Insignificant

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